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**2020 CENSUS PROGRAM MEMORANDUM SERIES: 2021.19**

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**MEMORANDUM FOR:** The Record

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**Subject:** Updates to the 2020 Redistricting Data Program Detailed Operational Plan

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This memorandum documents specific updates made to the plan for the Redistricting Data Program Operation (RDP) since the release of the [Redistricting Data Program Detailed Operational Plan \(DOP\)](#) on April 5, 2018. COVID-19-related delays and prioritizing the delivery of the apportionment results delayed the original plan to deliver the 2020 Census Redistricting Data (Public Law 94-171) to the states by April 1, 2021. Updates were made to the RDP Phase 3 Data Delivery workflow in order to deliver the high-quality data the states need for legislative and congressional redistricting in a timely manner. These updates, summarized below, are provided to ensure accurate final documentation is available to the public.

**Change to Redistricting Data Tabulation Delivery Dates**

The RDP provided the redistricting data tabulations to the official state recipients and to the public in the legacy format on August 12, 2021. The RDP provided the same redistricting data with easier-to-use data tools to official state recipients on removable media and to both the official state recipients and the public on [data.census.gov](https://data.census.gov) on September 16, 2021.

During the 2000 and 2010 decennial cycles, the RDP concurrently released the redistricting data to the states in the legacy format and on removable media (with easier-to-use data tools). The RDP planned to deliver both formats concurrently during the 2020 cycle as well. However, in recognition of the difficulties the delayed data delivery timeline created for states with approaching redistricting and election deadlines, the Census Bureau made the determination that the redistricting data could be released in the legacy format by August 2021, prior to the delivery of the removable media (with easier-to-use data tools) and release to data.census.gov in September 2021.

The legacy format redistricting data consist of four pipe-delimited text files (including a geoheader file and three data segment files featuring the six Public Law 94-171 tables). The legacy format files contained the identical data to the files delivered in September. They were fully reviewed and subject to the same quality assurance processes. The legacy format summary files required additional handling and software to properly extract the data of interest, while the September release included easier-to-use tools to access, view, and download the data.

### **Removal of Embargoed Data Release**

Since the redistricting data tabulations were released in the legacy format to the official state recipients and the public on August 12, 2021, there was no longer a need to coordinate and authorize the release of each state's data products to an embargoed environment on the Census Bureau's website. Therefore, the embargoed data release was removed from the operation.

### **Change from Weekly Flow Delivery to Single National Delivery**

The redistricting data tabulations were released in the legacy format for all 50 states, the District of Columbia, and the Commonwealth of Puerto Rico on the same day (August 12, 2021). The tabulations were mailed to all official state and state equivalent recipients on removable media for receipt on September 16, 2021, and were released for all 50 states, the District of Columbia, and Puerto Rico to data.census.gov that same day.

### **The 2020 Census Memorandum Series**

The 2020 Census Memorandum Series documents significant decisions, actions, and accomplishments of the 2020 Census Program for the purpose of informing stakeholders, coordinating interdivisional efforts, and documenting important historical changes.

A memorandum generally will be added to this series for any decision or documentation that meets the following criteria:

1. A major program-level decision that will affect the overall design or have significant effect on 2020 Census operations or systems.
2. A major policy decision or change that will affect the overall design or significantly impact 2020 Census operations or systems.
3. A report that documents the research and testing for 2020 Census operations or systems.

Visit 2020 Census on Census.gov to access the Memorandum Series, the 2020 Census Operational Plan, and other information about preparations for the 2020 Census.



# 2020 Census Detailed Operational Plan for: 22. Redistricting Data Program Operation (RDP)

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*A New Design for the 21st Century*

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# Approvals

This RDP Detailed Operational Plan has been reviewed and approved for use.

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# Document Change History

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| 1-8        | V1.0    | September 8, 2016 | Initial version for public release incorporating Executive comments and template updates.  |
| 9          | V2.0    | March 7, 2018     | Updated to include the Integrated Operations Diagrams, clarify roles and responsibilities of the RDP in relation to the Data Products and Dissemination operation (DPD), include information about the added second round of verification in the Voting District Project, and provide more clarity on registering states for the embargoed release of the P.L. Data. |

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## 1. Document Purpose

The 2020 Census Detailed Operational Plan for the Redistricting Data Program Operation (RDP) is intended for use by U.S. Census Bureau managers, staff, contractors, and other internal and external stakeholders working on the 2020 Census. The document presents the detailed operational design for the 2020 Census RDP Operation and includes a summary of the operational processes involved, their inputs, outputs, controls, and the basic mechanisms employed to conduct the operational work.

Anticipated uses of this document include the following:

- Communication—Documents operational design details for internal and external stakeholders.
- Planning—Documents planning assumptions and key milestones.
- Staffing—Documents staffing needs and strategies.
- Design—Describes operations and flows, which inform design of IT systems, manual processes, and training.
- Development—Identifies business rules and required capabilities to be developed.
- Testing—Provides a basis for developing integrated test plans for IT systems and processes.

This document complements the 2020 Census Operational Plan, which presents the 2020 Census operational design and covers all operations required to execute the 2020 Census, starting with precensus address and geographic feature updates and ending once census data products are disseminated and coverage and quality are measured.

## **2. Operational Overview**

### **2.1 Operation Purpose**

The purpose of the Redistricting Data Program operation (RDP) is to provide to each state the opportunity to identify the small area geographies needed for legislative redistricting and the legally required Public Law (P.L.) 94-171 redistricting data tabulations by the mandated deadline of one year from Census Day: April 1, 2021.

### **2.2 Background**

The 2020 Census RDP addresses the Census Bureau's responsibilities under P.L. 94-171. The U.S. Congress passed P.L. 94-171 in 1975 to address the states' needs for data tabulated for specific geographies in order for the states to meet the judicially established requirement of "one person, one vote," and other requirements under the Voting Rights Act of 1965. The law requires the Census Bureau, through the Secretary of Commerce, to establish a program for states to identify the geographic areas for which data tabulations are needed in order for them to conduct their legislative redistricting. Historically, states have identified census tabulation blocks (blocks) and voting districts (VTDs) as those geographies. The law also requires that the program be conducted in a nonpartisan manner and that delivery of tabulations to the governors, legislative leadership, and the officers or public bodies with responsibility for legislative apportionment or districting take place no later than one year from Census Day. Since the program was first established for the 1980 Census, the specifics of the program have adapted from census to census to meet changing circumstances and needs of the states.

The 2020 Census RDP began in July 2014 with an announcement in the *Federal Register*. The Census Bureau's Census Redistricting and Voting Rights Data Office (CRVRDO), the office responsible for implementing the 2020 Census RDP, contacted the legislative leaders from both the majority and minority parties in each state and asked them to appoint jointly a liaison to work with the CRVRDO for the duration of the program. The CRVRDO works with the liaisons on the various phases of the program, which include the following activities:

- States can suggest linear features (e.g. roads, nonvisible boundaries, railroads, streams, etc.) they want the Census Bureau to use as 2020 Census tabulation block boundaries, the goal of Phase 1, the Block Boundary Suggestion Project (BBSP).
- States can suggest updates to the Census Bureau's geographic database, the Master Address File/Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER) system, by submitting missing features, suggesting features that should be deleted, and providing corrections to misaligned features. The Census Bureau will verify these submissions and process the approved updates into the MAF/TIGER system.

- States can submit the boundaries of VTDs before the 2020 Census during Phase 2, the Voting District Project (VTDP), so 2020 Census data can be tabulated for those districts.
- States can submit updates to the boundaries for area landmarks and other legal geography, which the Census Bureau will also review and process into the MAF/TIGER system, so 2020 Census data tabulations for those geographies are accurate. This also ensures that 2020 Census tabulation blocks nest within accurate geographic boundaries.
- The Census Bureau will deliver P.L. 94-171 data products, which include 2020 Census population counts by race and ethnicity for the total and over-18 age population down to the tabulation block level, as well as housing unit counts and group quarter population counts down to the tabulation block level.
- The Census Bureau will deliver 2020 Census geographic support products to the states, including shapefiles, maps, block relationship files, and block assignment files.
- After completing their post-2020 Census redistricting, states can provide congressional district (CD) and state legislative district (SLD) boundaries to the Census Bureau, and the Census Bureau will retabulate the 2020 Census data in those new boundaries.
- The Census Bureau will conduct an evaluation of the 2020 Census RDP with the states and begin planning for the 2030 Census RDP.

These activities remain unchanged from activities conducted as part of the 2010 Census RDP, with the following exceptions:

- The Census Bureau will collect state suggestions for 2020 Census tabulation block boundaries and voting district boundaries at different times in the decade and in different phases of the RDP. In the 2010 Census, the BBSP and VTDP were conducted at the same time in the same phase. States provided feedback that they did not have the resources to complete both at the same time and indicated their preference for conducting the two activities at different times during the 2020 Census RDP, as they had in censuses before 2010.
- The 2020 Census RDP will allow states to suggest updates to legal boundaries for counties, incorporated places, and minor civil divisions (in some states). The CRVRDO will coordinate these submissions with submissions received by the Census Bureau's Geography Division through the Boundary and Annexation Survey (BAS). States requested the change because boundaries for these areas also serve as tabulation block boundaries since blocks must nest within them. Furthermore, many states try to ensure certain geographies are not split when they conduct redistricting. If legal boundaries are incorrect in the MAF/TIGER system, tabulation blocks will nest within those incorrect boundaries and not with the actual boundaries. States might encounter issues in trying to keep communities intact during their redistricting. The boundary discrepancies can also lead to geographies that do not line up properly, creating slivers in the census data that

would then need to be resolved through the Geographic Area Reconciliation Program, conducted as part of the Geographic Programs operation (GEOP).

- The 2020 RDP will process all state submissions to BBSP and VTDP at headquarters (HQ) rather than in the regional offices where it had historically been done. Centralizing the processing at HQ allows the RDP to coordinate more efficiently with the BAS staff, who bear ultimate responsibility for processing legal boundary updates into the MAF/TIGER system.
- During Phase 1 and Phase 2, the Census Bureau will provide states with a shapefile that represents what the census tabulation blocks would be if generated on geography as it exists at that time. (The official 2020 Census tabulation blocks will be generated based on the geography as it will exist in 2020.) This “planned” block file will assist states in their work suggesting linear features they would like to see used as 2020 Census tabulation block boundaries, as they will not need to suggest holding a linear feature as a tabulation block boundary if the state knows the Census Bureau already plans to hold the feature as a block boundary.
- Block relationship files, which will provide a crosswalk between the 2010 Census tabulation blocks and the 2020 Census tabulation blocks will be delivered to states earlier than they were in the 2010 Census RDP so they are available to the states when they conduct their redistricting.
- The Census Bureau will provide a Group Quarters Population by Group Quarters Type table as part of the official P.L. 94-171 data product delivery. In the 2010 Census RDP, the Census Bureau delivered this as the Advanced Group Quarters file in May 2011, after the official P.L. data product delivery. The file planned for the 2020 Census RDP will be delivered as part of the P.L. data product delivery no later than April 1, 2021, so states can use the file in their redistricting work. This change assists states that reallocate some GQ populations such as prisoners, college students, and the military for their state redistricting.

## **2.3 Design Overview**

The sections below present the high-level design for the RDP Operation. Please refer to the 2020 Census Operational Plan for a complete inventory of design decisions for all 2020 Census operations.

### **2.3.1 High-Level Operational Design**

The design of the RDP Operation for the 2020 Census includes six major operational activity areas:

- **Redistricting Data Program Initiation**

The Census Bureau announces the RDP in the *Federal Register*, establishes each state RDP liaison, and offers to meet with states to educate them about the program.

- **Block Boundary Suggestion Project (Phase 1)**

The Census Bureau gives states the opportunity to provide suggestions for the 2020 Census tabulation block boundaries, as well as updates to legal areas, area landmarks and features. The resulting 2020 Census data are tabulated into the geographic units the states need to conduct their redistricting.

- **Voting District Project (Phase 2)**

The Census Bureau collects voting district boundaries from each state so the 2020 Census data are tabulated into current voting districts, which are often used by the states in conducting their redistricting. The Census Bureau also continues to collect updates to legal areas, area landmarks and features, and block boundary suggestions.

- **2020 Census Redistricting Data and Geographic Products Support (Phase 3)**

The Census Bureau works with states to ensure the P.L. 94-171 data products and geographic support products planned for release within one year of Census Day will meet their needs in terms of content and format. No later than April 1, 2021, the Census Bureau disseminates the P.L. 94-171 data products and geographic support products to the states so they can conduct their redistricting work.

- **Collection of 2020 Census Redistricting Changes (Phase 4)**

The states provide the boundary information for their post-2020 CDs and SLDs, and the Census Bureau retabulates the 2020 Census data for the new districts. The Census Bureau also creates and releases updated geographic products, including maps, shapefiles, and block assignment files.

- **2020 Census Redistricting Data Program Evaluation (Phase 5)**

The Census Bureau solicits feedback from the states to evaluate the 2020 Census RDP and make recommendations for the 2030 Census RDP. Feedback, lessons learned, and recommendations are documented in a printed report.

The full hierarchy of activities for the RDP Operation is provided in Appendix C in the form of an Activity Tree. In the Activity Tree, each major operational activity area listed above is numbered and then decomposed into a numbered set of subactivities, some of which are further decomposed into more detailed numbered subactivities or steps.

For a full description of the operational subactivities that comprise the RDP Operation, see the Detailed Process Description discussions in Section 3 below.

### **2.3.2 RDP Operational Context**

The RDP operational activities described above are conducted within the context of other 2020 Census operations and other programs or data sources that are external to the 2020 Census Program. One way to depict an operational context is by using a “Context Diagram,” which shows the boundary of the operational process, the operational activities it contains, and the information exchanged with its neighbor operations (or other entities) as well as the resources (mechanisms) needed to conduct the operational work.

Figure 1 is a top-level context diagram for the RDP Operation represented as an Integrated Definition, Level 0 (IDEF0) model. An IDEF0 model of a process (or operation) shows the Inputs, Controls, Outputs, and Mechanisms of the process. These IDEF0 model elements are summarized below and described further in the sections that follow.

The yellow box in the center of the IDEF0 model lists the major operational activity areas for the operation, numbered as given in the RDP Operation Activity Tree in Appendix C. Specific Information Exchanges (IE) are shown in different colored boxes to represent the Inputs (green boxes on left side), Outputs (orange boxes on right side), Controls (purple boxes on top), and Mechanisms (blue boxes on the bottom). Boxes to the left of the Inputs indicate the *Provider* of the inputs to the operation (typically another 2020 Census operation or an external source). The Provider of the Controls is noted in the box itself. Boxes to the right of the Outputs indicate the *Receiver* of the outputs (typically another 2020 Census operation or external entity). Each Information Exchange has a name and a unique number for identification purposes.

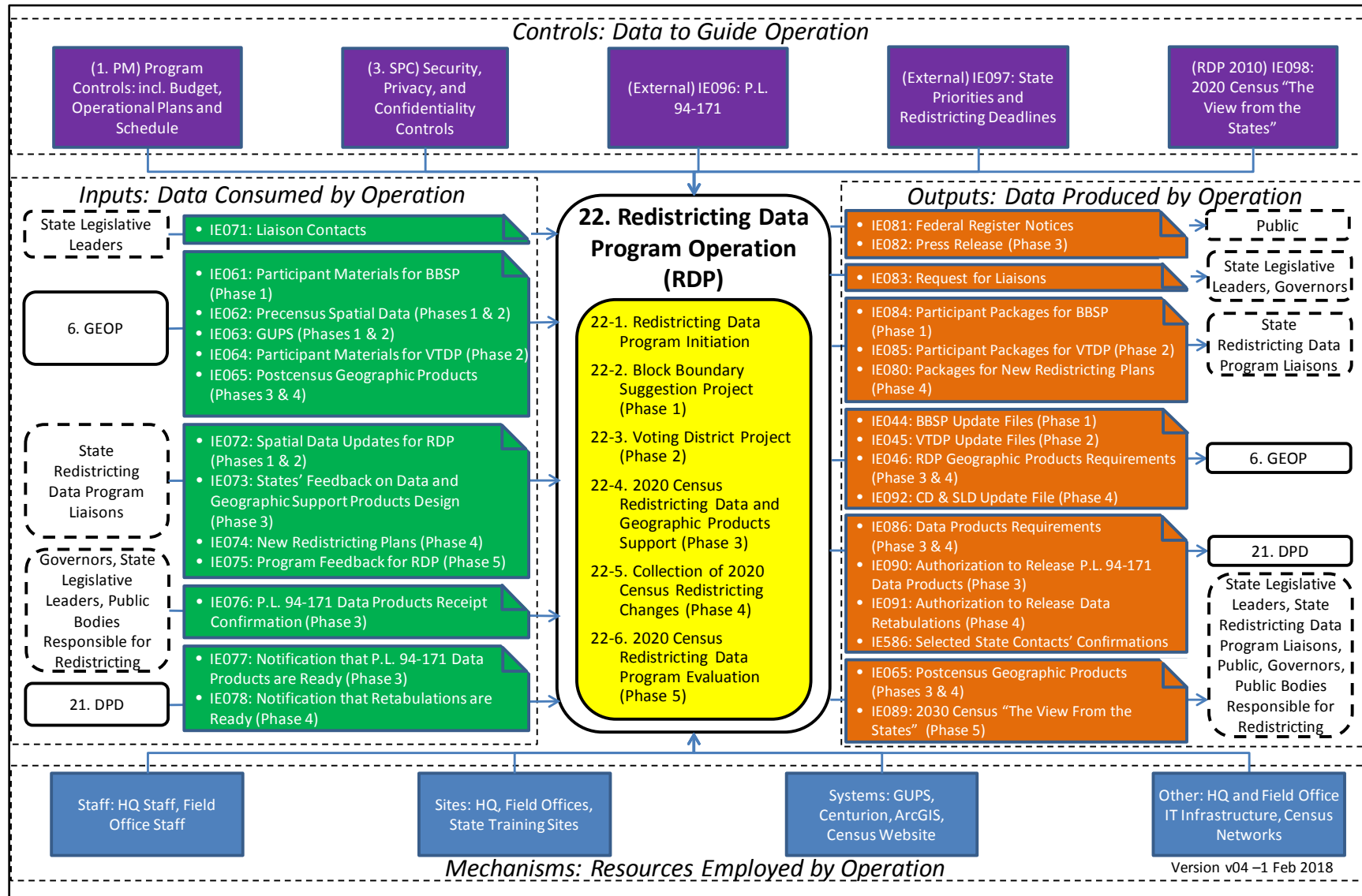


Figure 1: Redistricting Data Program Operation (RDP) Context Diagram

The RDP is announced through a *Federal Register* notice, an output received by the public. After publication of that notice, the CRVRDO contacts the governor and the majority and minority leaders of each state's legislature, asking them to appoint a nonpartisan liaison to serve as the main point of contact for the Census Bureau throughout the program. (The liaison is technically appointed by the legislative leaders from both the majority and minority parties, but the governor is included in the communication as a courtesy.) The contact information for the liaisons is an input to the program.

The RDP, which has five phases, involves data exchanges between state-level stakeholders, the public, and other 2020 Census operations. Phase 1 and Phase 2 also begin with an announcement in the *Federal Register*, another output received by the public. For Phase 1 and Phase 2, the RDP relies on the Geographic Programs Operation (GEOP) to provide as an input the pre-2020 Census spatial data for the state RDP liaisons to update, as well as the update software (Geographic Update Partnership Software [GUPS]) and participant guidelines for using the software and updating the data. The CRVRDO assembles these materials, and the outputs are the participant packages provided to the state RDP liaisons. After the liaisons make their spatial updates using the GUPS or other Geographic Information System (GIS) software, the spatial data updates themselves become inputs from the liaison to the RDP. The RDP reviews these updates, and the update files (BBSP Update Files for Phase 1 and VTDP Update Files for Phase 2) become outputs from the RDP to the GEOP, which uses those files to update the MAF/TIGER system.

Phase 3 begins with the RDP generating an output of P.L. 94-171 data product and geographic support product requirements to the Data Products and Dissemination operation (DPD) team and to the GEOP, respectively. One input to these requirements is the feedback the liaisons provide to the RDP on the prototype data and geographic support products created in the 2018 End-to-End Census Test. The RDP solicits feedback to the design of the prototype data product itself, by publishing the design in the *Federal Register* before the 2018 Census End-to-End Test, and soliciting for public comment.

Once the requirements have been delivered and the geographic products are created, the GEOP delivers them to the RDP on removable media. The RDP releases the geographic products to the states on removable media, and the products are posted on the Census Bureau's website, an output to the state RDP liaisons, state legislative leaders, state governors, public bodies responsible for legislative redistricting, and the public. The RDP also coordinates the release of the data product. First, the RDP notifies the state officials that should be included in an initial embargoed release of the product and provides instructions for them to register for the state embargo. The RDP will also approve all state embargo registrants to receive the data. The DPD will set up the embargo environment, so that only registered stakeholders can initially access the data. Once the DPD has notified the RDP that the data product is ready to be released (an input),

the RDP provides, as an output to the DPD, the authorization to release it in the state embargoed environment. A news release prepared by the Public Information Office (PIO) announcing the release of the data products is also an output from the RDP to the public. Confirmation that the products were received is an input from the governors, legislative leadership and the public bodies responsible for redistricting to the RDP. Once the RDP receives confirmation of product receipt from the previously defined selected members of this group (generally at least one person from the majority and minority parties), an output from the RDP to the DPD is sent that these confirmations were received. At that point the DPD will proceed to release the data to the media and the public as part of their operation.

During Phase 4, the RDP solicits and the state RDP liaison provides the state's updated, post 2020 Census CD and SLD plans (new redistricting plans) as an input to the RDP. The RDP reviews and creates CD and SLD update files as an output for GEOP, which uses those files to update the MAF/TIGER system. Outside of the RDP, DPD will then use the MAF/TIGER data to retabulate census data in the new CD and SLD geography, based on the data product requirements the RDP outputs to the DPD. The DPD notifies the RDP that the retabulations are ready for release and the RDP authorizes the DPD to release the packaged retabulations. The RDP also provides geographic product requirements to the GEOP. The GEOP provides the products to the RDP on removable media and the RDP in turn provides the products as an output to the state RDP liaisons, state legislative leaders, governors, public bodies responsible for legislative redistricting, and the public. The geographic products are also released on the Census Bureau's website.

The input to Phase 5 is the state RDP liaisons' feedback on the 2020 Census RDP overall, which is compiled and presented as part of a publication output called "The View from the States."

Controls over the operation include program and security, privacy, and confidentiality controls; Public Law 94-171, which requires the operation; state redistricting deadlines and priorities, which feed into the Phase 3 products requirements (i.e. specifying the order in which state products should be created); and lessons learned and feedback from the 2010 RDP, as documented in the 2020 Census "View from the States."

The mechanisms (i.e., physical resources) employed during the RDP include staff at HQ and field offices; sites (HQ, state training sites); systems (GUPS, Centurion, ArcGIS, and the Census Bureau website); HQ and field office IT infrastructure; and other Census Bureau networks.

For detailed descriptions of the Inputs, Controls, Outputs, and Mechanisms used by the RDP Operation, see the sections that follow.

### 2.3.2.1 RDP Operational Inputs

Inputs are the data that are consumed by the operation. The inputs define the amount of operational work that needs to be performed.

Table 1 lists the inputs to the RDP Operation.

**Table 1: Redistricting Data Program Operational Inputs**

| Provider                  | Information Exchange    | Description  |
|---------------------------|-------------------------|--|
| State Legislative Leaders | IE071: Liaison Contacts | At the beginning of the RDP, the CRVRDO contacts the legislative leaders from both the majority and minority parties in each state, and asks them to appoint a liaison, who will serve as the RDP's point of contact throughout the program. The CRVRDO includes the state's governor on correspondence with the state legislative leadership as a courtesy. |

| Provider                                | Information Exchange                            | Description  |
|---|---|--|
| 6. Geographic Programs operation (GEOP) | IE061: Participant Materials for BBSP (Phase 1) | <p>Guidelines provided to the state RDP liaison on how to participate in the Block Boundary Suggestion Project (Phase 1).</p> <p>There are two sets of participant guidelines, or user's guides. One is for participants using the GUPS and one is for participants using their own GIS software. Both user guides cover a description of the census-supplied spatial data, suggested workflows, instructions for indicating 2020 Census tabulation block boundary suggestions and other boundary and feature updates, and instructions for submitting the data back to the Census Bureau. Additionally, the GUPS user guide also includes instructions for installing and setting up GUPS, loading the Census-supplied spatial data into GUPS, and instructions for performing built in quality control checks.</p> |
| 6. Geographic Programs operation (GEOP) | IE062: Precensus Spatial Data (Phases 1 & 2)    | <p>Standard shapefiles for tabulation blocks, counties, places, voting districts, roads, hydrology, and other geography, as they are defined before the 2020 Census. These data are a standard product released by the Census Bureau's Geography Division for numerous partnership programs in which local and state partners provide updates to their geography.</p>  |

| Provider                                | Information Exchange                            | Description  |
|---|---|--|
| 6. Geographic Programs operation (GEOP) | IE063: GUPS (Phases 1 & 2)                      | Software provided to the state RDP liaison and used to update the precensus spatial data. After the liaison makes the updates for their state, the GUPS generates update submission files that are returned to the Census Bureau. GUPS is designed for all user levels and has customized tools for each update program or project that uses it.   |
| 6. Geographic Programs operation (GEOP) | IE064: Participant Materials for VTDP (Phase 2) | <p>Guidelines provided to the state RDP liaison on how to participate in the Voting District Project (Phase 2).</p> <p>There are two sets of guidelines. One is for participants using GUPS and one for participants using their own GIS. Both user guides cover a description of the census-supplied spatial data; suggested workflows; instructions for updating VTD boundaries, 2020 Census tabulation block boundary suggestions, and other boundary and feature updates; and instructions for submitting the data back to the Census Bureau. Additionally, the GUPS user guide also includes instructions for installing and setting up GUPS, loading the Census Bureau-supplied spatial data into GUPS, and instructions for performing built in quality control checks.</p> |

| Provider                                  | Information Exchange                                 | Description  |
|---|--|--|
| 6. Geographic Programs operation (GEOP)   | IE065: Postcensus Geographic Products (Phases 3 & 4) | <p>For Phase 3, this includes geographic support products provided by the GEOP to the RDP and ultimately passed on to the states and the public to support their redistricting work. These products include shapefiles, maps, block assignment files (inventory of tabulation blocks that comprise various geographic areas) and block relationship files (crosswalks between the 2020 and 2010 tabulation blocks), reflecting the 2020 Census geography. States use these products to create their initial post-2020 Census CD and SLD plans.</p> <p>With the exception of the block relationship files, the GEOP provides the same products, which are passed on to the states and the public when states update their CD or SLD boundaries through Phase 4.</p> |
| State Redistricting Data Program Liaisons | IE072: Spatial Data Updates for RDP (Phases 1 & 2)   | <p>Updates from state RDP liaisons reflecting suggestions for features to hold as 2020 Census tabulation block boundaries (for Phase 1) or changes to voting district boundaries (for Phase 2). For both phases, state RDP liaisons may also submit updates to features and legal boundaries.</p>  |

| Provider  | Information Exchange   | Description   |
|---|--|---|
| State Redistricting Data Program Liaisons   | IE073: States' Feedback on Data and Geographic Support Products Design (Phase 3) | Feedback provided by the state RDP liaisons on the layout and design of the data and geographic support products. This feedback will be based on the prototype products provided to the states during the 2018 End-to-End Census Test and is critical to ensuring that the states can use the data and geographic support products provided to them as a result of the 2020 Census. |
| State Redistricting Data Program Liaisons   | IE074: New Redistricting Plans (Phase 4)   | The state's new CD and SLD plans delineated using data from the 2020 Census.  |
| State Redistricting Data Program Liaisons   | IE075: Program Feedback for RDP (Phase 5)  | Lessons learned and other feedback on the program from the states. The feedback informs the design of the Redistricting Data Program for the 2030 Census and is documented in the "A View from the States" publication.   |
| Governors, State Legislative Leaders, Public Bodies Responsible for Redistricting | IE076: P.L. 94-171 Data Products Receipt Confirmation (Phase 3)                  | Confirmation that the state legislative leaders, governors, and public bodies responsible for legislative redistricting received the P.L. 94-171 data products.   |
| 21. Data Products and Dissemination operation (DPD)                               | IE077: Notification that P.L. 94-171 Data Products are Ready (Phase 3)           | Notification received when the data products are ready to be released. The data products (2020 Census population and housing counts by tabulation block, voting district and other geographies) are prepared for the states in accordance with P.L. 94-171, so states can conduct their redistricting.  |

| Provider  | Information Exchange                                       | Description  |
|---|--|--|
| 21. Data Products and Dissemination operation (DPD) | IE078: Notification that Retabulations are Ready (Phase 4) | Notification received when the retabulations are ready to be released. These are retabulations of 2020 Census data for CDs and SLDs as the boundaries are updated for subsequent legislative sessions in the years after 2021. |

### 2.3.2.2 RDP Operational Controls

Controls are the data that guide the behavior of the operation. They are not consumed by the operation, but rather they provide guidance, models, limits, criteria, cutoff dates, or other information that controls the way in which the operational work is performed.

Table 2 lists the controls for the RDP Operation.

**Table 2: Redistricting Data Program Operational Controls**

| Provider  | Information Exchange                            | Description   |
|---|---|---|
| 1. Program Management operation (PM)                      | Program Controls                                | Program Control information including: <ul style="list-style-type: none"> <li>Budget</li> <li>Operational Plans and Schedule</li> </ul>   |
| 3. Security, Privacy, and Confidentiality operation (SPC) | Security, Privacy, and Confidentiality Controls | Laws, policies, regulations, and guidelines related to physical security, IT security, data security and privacy and confidentiality impacts, analyses, and processes. These include but are not limited to Title 13, Title 26, and other laws and policies related to protection of personally identifiable information. |

| Provider | Information Exchange                                | Description  |
|----------|---|--|
| External | IE096: P.L. 94-171                                  | <p>The law that requires the Census Bureau to provide state legislatures with the small area census population tabulations necessary for legislative redistricting. The law also specifies:</p> <ul style="list-style-type: none"> <li>• The states choosing to participate in this voluntary program will identify the small areas for which they desire specific data tabulations and submit these areas following timelines established by the Secretary of Commerce. (The small areas historically identified by the states are census tabulation blocks and voting districts.)</li> <li>• The Census Bureau must transmit the population tabulations for these areas to the states within one year of Census Day, customarily April 1 of the year following the census.</li> </ul> <p>For more information, refer to:<br/>&lt;<a href="https://www.census.gov/programs-surveys/decennial-census/about/rdo/program-management.html">https://www.census.gov/programs-surveys/decennial-census/about/rdo/program-management.html</a>&gt;</p> |
| External | IE097: State Priorities and Redistricting Deadlines | <p>Individual states' priorities for and deadlines by which they require the census data products. These are often driven by upcoming elections and other state-specific events that depend upon redistricting.</p>  |

| Provider  | Information Exchange                          | Description   |
|---|---|---|
| 22. Redistricting Data Program operation (RDP) 2010 | IE098: 2020 Census “The View from the States” | A report containing a summary of the major lessons learned from the 2010 Census RDP and recommendations for the 2020 Census RDP. Feedback from the 2010 Census state RDP liaisons and technical staff from each of the states, the District of Columbia and the Commonwealth of Puerto Rico largely forms the basis of this report. |

### 2.3.2.3 RDP Operational Outputs

Outputs are the data produced by the operation. The outputs constitute the results of operational work that has been performed. Outputs produced may be used as inputs or controls to other operations.

Table 3 lists the outputs from the RDP operation.

**Table 3: Redistricting Data Program Operational Outputs**

| Consumer | Information Exchange            | Description  |
|----------|---------------------------------|--|
| Public   | IE081: Federal Register Notices | <p>Notices sent to the <i>Federal Register</i> to inform the public about the 2020 Census RDP, the upcoming data collection request for the BBSP (Phase 1) and the VTDP (Phase 2), and soliciting comments to the design of the P.L. 94-171 prototype data product.</p> <p>All notices must be posted on the <i>Federal Register</i> for public review and a comment period.</p> |

| Consumer                                  | Information Exchange                           | Description   |
|---|--|---|
| Public                                    | IE082: News Release (Phase 3)                  | Formal news release prepared by the Public Information Office (PIO) announcing the dissemination of the P.L. 94-171 data and geographic support products for the 2020 Census.   |
| State Legislative Leaders, Governors      | IE083: Request for Liaisons                    | A letter sent to the governors and legislative leaders from both the majority and minority parties for each state, the District of Columbia and the Commonwealth of Puerto Rico, explaining the program and requesting the legislative leadership to designate a nonpartisan liaison to serve as the Census Bureau's contact for the duration of the RDP. |
| State Redistricting Data Program Liaisons | IE084: Participant Packages for BBSP (Phase 1) | Packages sent to the participating states' RDP liaisons that contain all of the materials, software, and data that states need to participate in the RDP, Phase 1. This includes program guidelines and training materials, the GUPS, and precensus spatial data.   |
| State Redistricting Data Program Liaisons | IE085: Participant Packages for VTDP (Phase 2) | Packages sent to the participating states' RDP liaisons that contain all of the materials, software, and data that states need to participate in the RDP, Phase 2. This includes program guidelines and training materials, the GUPS, and precensus spatial data.   |

| Consumer  | Information Exchange  | Description  |
|---|---|--|
| State Redistricting Data Program Liaisons           | IE080: Packages for New Redistricting Plans (Phase 4)               | Packages sent to the participating states' RDP liaisons that contain all of the materials, software, and data that states need to participate in the RDP, Phase 4.<br><br>This includes program guidelines and training materials, and the GUPS. |
| 6. Geographic Programs operation (GEOP)             | IE044: BBSP Update Files (Phase 1)                                  | Reviewed and verified state-provided block boundary suggestions, feature updates, and boundary changes sent to the GEOP for updating the MAF/TIGER system.   |
| 6. Geographic Programs operation (GEOP)             | IE045: VTDP Update Files (Phase 2)                                  | Reviewed and verified state-provided VTD boundaries, block boundary suggestions, feature updates, and other boundary changes sent to the GEOP for updating the MAF/TIGER system.   |
| 6. Geographic Programs operation (GEOP)             | IE046: RDP Geographic Products Requirements (Phase 3 & 4)           | Requirements for the geographic products created in Phase 3 and Phase 4.   |
| 6. Geographic Programs operation (GEOP)             | IE092: CD & SLD Update File (Phase 4)                               | Reviewed and verified state-provided CD and SLD boundaries sent to the GEOP for updating the MAF/TIGER system.   |
| 21. Data Products and Dissemination operation (DPD) | IE086: Data Products Requirements (Phase 3 & 4)                     | Requirements for the P.L. 94-171 data products created in Phase 3 and the retabulations created in Phase 4.  |
| 21. Data Products and Dissemination operation (DPD) | IE090: Authorization to Release P.L. 94-171 Data Products (Phase 3) | Authorization to release the P.L. 94-171 data products to embargoed environment open to state officials.   |

| Consumer   | Information Exchange   | Description  |
|--|--|--|
| 21. Data Products and Dissemination operation (DPD)  | IE091: Authorization to Release Data Retabulations (Phase 4) | Authorization to release data retabulations for the updated CD and SLD boundaries to the public website.   |
| 21. Data Products and Dissemination operation (DPD)  | IE586: Selected State Contacts' Confirmations                | Confirmations of the receipt of the Redistricting data within the state list of recipients.  |
| State Legislative Leaders, State Redistricting Data Program Liaisons, Public, Governors, Public Bodies Responsible for Redistricting | IE065: Postcensus Geographic Products (Phases 3 & 4)         | Geographic support products, including maps, shapefiles, block relationship files, and block assignment files that support the states' work in delineating their CDs and SLDs after the 2020 Census (Phase 3) and reflect updates to CDs and SLDs made after 2021 (Phase 4).   |
| State Legislative Leaders, State Redistricting Data Program Liaisons, Public, Governors, Public Bodies Responsible for Redistricting | IE089: 2030 Census "The View From the States" (Phase 5)      | A report containing a summary of the major lessons learned from the 2020 Census RDP and recommendations for the 2030 Census RDP. Feedback from the 2020 Census state RDP liaisons and technical staff from each of the states, the District of Columbia, and the Commonwealth of Puerto Rico will largely form the basis of this report. |

#### 2.3.2.4 RDP Operational Mechanisms

Mechanisms are the resources (people, places, and things) that are used to perform the operational processes. They include Staff Resources, Infrastructure Sites, Systems, and other Technology Infrastructure.

### ***Staff Resources***

Table 4 identifies the staff resources employed for the RDP operation.

**Table 4: Staff Resources used within Redistricting Data Program Operational Activities**

| <b>Staff Resources</b> | <b>Description/Role</b>  |
|------------------------|--|
| HQ Staff               | HQ staff to manage the RDP operation and coordinate activities with field office staff and the other operations.<br><br>HQ staff includes Public Information Office (PIO) staff who create the news release (Phase 3). |
| Field Office Staff     | Permanent staff in the field office who provide training and interact directly with states as assigned in support of the RDP operation.  |

### ***Infrastructure Sites***

Table 5 identifies the Infrastructure Sites employed for the RDP operation.

**Table 5: Infrastructure Sites for Redistricting Data Program Operational Activities**

| <b>Infrastructure Site</b> | <b>Description/Role</b>   |
|----------------------------|---|
| HQ                         | HQ site for office work conducted in support of the RDP operation.                            |
| Field Offices              | Field offices used by field office staff in supporting the RDP operation work.                |
| State Training Sites       | Sites for holding educational meetings and training state liaisons and their technical staff. |

### ***Systems and other Technology Infrastructure***

Table 6 identifies the Systems employed for the RDP operation.

**Table 6: Systems used within Redistricting Data Program Operational Activities**

| <b>System</b>                                 | <b>Description</b>   |
|---|--|
| Geographic Update Partnership Software (GUPS) | GUPS is a system allowing state partners to provide geographic updates. GUPS will support all geographic partnership programs, (e.g., Boundary and Annexation Survey (BAS), Participant Statistical Areas Program (PSAP), the School District Review Program (SDRP), etc.); Local Update of Census Addresses (LUCA); Redistricting Data Program (RDP). |
| Centurion                                     | Centurion is a system that is used to provide secure file transfer capabilities.   |
| ArcGIS  | ArcGIS is a commercial tool that is used for Geographic Information System applications.   |
| 2020 Census Website                           | The 2020 Census website provides a public web interface. For RDP, publicly available materials are posted on the 2020 Census website.  |

Other Technology Infrastructure employed for the RDP operation includes:

- HQ and Field Office IT Infrastructure for conducting RDP operational work.
- Census network connectivity for data transmission between operational systems and operational sites.

## **2.4 RDP Data Flow and Operational Influences**

The RDP operation integrates with several other operations during the development of the Frame as well as during dissemination of data products. The following Integrated Operations Diagrams show the flow of information among all of the relevant operations.

### **2.4.1 Frame Development Integrated Operations Diagram**

Figure 2 is an Integrated Operations Diagram, which depicts the major interactions among the operations and external entities involved in the development of the 2020 Census Frame (address

and spatial data). This diagram shows the Geographic Programs operation (GEOP) as the hub of frame development and GEOP's interactions with the other 2020 Census operations that have a role in frame development. GEOP is composed of three components: Geographic Delineations component (GEOP/GD), Geographic Partnerships component (GEOP/GP), and Geographic Data Processing component (GEOP/GDP). Also shown are the upstream and downstream operational influences, including the Address Canvassing operation (ADC), Local Update of Census Addresses operation (LUCA), Redistricting Data Program operation (RDP), Response Processing operation (RPO), Count Review operation (CRO), Data Products and Dissemination operation (DPD), and Archiving operation (ARC).

This diagram covers frame development for the 2020 Census (stateside and Puerto Rico). It does not cover development of the frame for the Island Area Censuses or Coverage Measurement operations.

The discussion below walks the reader through the diagram, using the circled numbers to help the reader follow the flow.

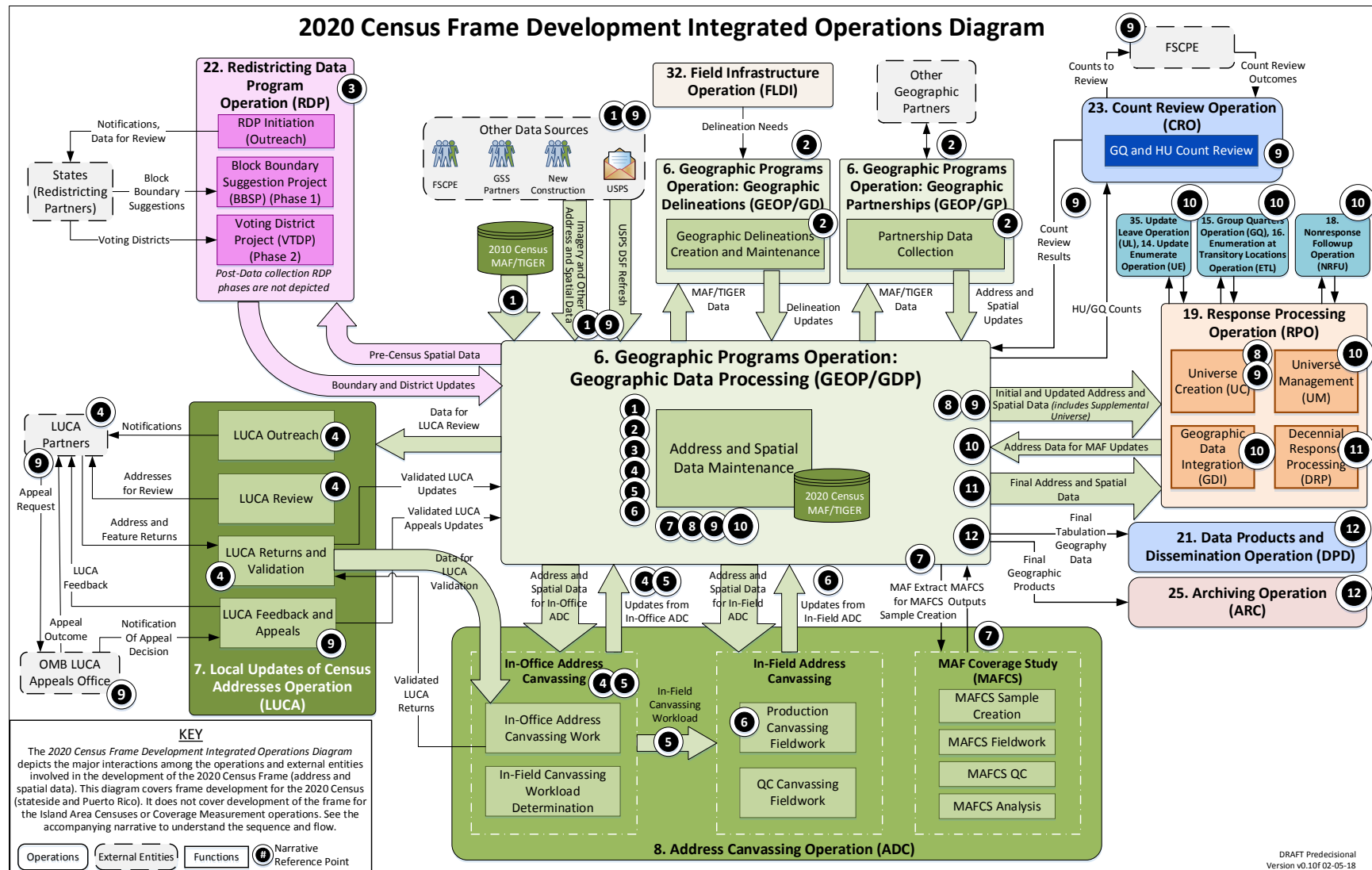


Figure 2: 2020 Census Frame Development Integrated Operations Diagram

① Frame development for the 2020 Census includes, as a starting point, the 2010 Census address and spatial data from the 2010 Master Address File/Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER) database and any ongoing updates that have been performed throughout the early part of the decade. Frame development takes inputs from various external sources to update the address and spatial data in the MAF/TIGER system.

The United States Postal Service (USPS) typically provides data to the Census Bureau twice a year, in the spring and the fall, through the Delivery Sequence File (DSF). The DSF is the list of all addresses (and some related data) maintained by the USPS for mail delivery and is the most complete USPS address database available. GEOP processes the DSF with other data from the USPS through an activity collectively known as the “DSF Refresh.”

Other sources, such as Federal-State Cooperative for Population Estimates (FSCPE) and Geographic Support System (GSS) Partners provide data to GEOP/GDP, which is used in validating and updating the MAF/TIGER data. Based on data from all these sources, GEOP/GDP updates the MAF/TIGER data throughout the decade.

② The GEOP/GP performs outreach activities to encourage and motivate participation in the Geographic Partnership Programs. Partner groups, including tribal, state, and local governments, and coordinating agencies, provide address and spatial data updates to GEOP/GP, which sends them to GEOP/GDP to update the MAF/TIGER data.

The GEOP/GD determines, delineates, and updates the geographic area boundaries for 2020 Census data collection and tabulation. GEOP/GD performs the delineation of various Collection Geography areas, based on the Basic Collection Unit (BCU), the smallest unit of collection geography for all 2020 Census listing-based operations. In an effort to ensure the most cost-effective and efficient process to enumerate households, every BCU in the United States is assigned to one specific Type of Enumeration Area (TEA). The TEA assignment for a given BCU is based on address types and other characteristics of the BCU, including an assessment of the likelihood of residents to self-respond and accessibility of the BCU. The TEA assignment determines the methodology used for frame creation and enumeration of the households within the BCU. GEOP/GD also supports Field Management Area delineation, which includes delineation of geographic areas necessary to manage and accomplish the fieldwork for the 2020 Census. In addition to the collection geography delineation work described above, GEOP/GD is also responsible for 2020 Census Tabulation Geography delineation. Tabulation Geography delineation data are used by DPD at the conclusion of the 2020 Census during the creation of the 2020 Census data products. GEOP/GDP updates the MAF/TIGER data to reflect both these kinds of delineations.

GEOP/GP and GEOP/GD activities began in 2016 and are ongoing throughout frame development.

③ In addition to inputs provided by partners through the GEOP/GP component, the 2020 Census includes an operation, RDP, which provides each state the opportunity to identify the small area geographies needed for legislative redistricting and the legally required Public Law (P.L.) 94-171 redistricting data tabulations by the mandated deadline of April 1, 2021, one year from Census Day. RDP includes activities to update the frame with current block boundary suggestions (2015 – 2017) and voting district project inputs (2017 – 2020).

Once RDP establishes which states will participate, it sends those states packages, including precensus spatial data that reflect the boundaries and features in the MAF/TIGER data. The participants update these shapefiles and provide them back to RDP, which reviews them and resolves any issues. Once reviewed, the updated files are provided to GEOP/GDP for use in updating the MAF/TIGER data.

④ Another operation is Local Update of Census Addresses (LUCA). LUCA provides an opportunity for tribal, federal, state, and local governments to review and improve the address lists and maps as required by P.L. 103-430. LUCA sends an advance notice package to approximately 39,000 state, local, and tribal governments informing them about LUCA. Participating LUCA partners that have signed an agreement to protect the Title 13 data contained in the Census Bureau address files are provided review materials, including shapefiles and address data from MAF/TIGER for review. The material provided for LUCA review includes some MAF/TIGER updates from the ongoing In-Office Address Canvassing (ADC) work. The LUCA partners review the materials and provide any updates as address and feature returns. Address matching is used to match and flag returns for validation as needed. 2020 Census LUCA addresses that are not validated during address matching are sent to ADC for in-office validation. In-office validation results are returned to LUCA. LUCA provides updates for validated addresses from LUCA partner returns to GEOP/GDP for use in updating the MAF/TIGER data. Addresses that were not validated are subsequently sent back to LUCA partners as part of the LUCA feedback activity.

⑤ A critical part of frame development is ADC. ADC's purpose is to deliver a complete and accurate address list and spatial database for enumeration and determine the type and address characteristics for each living quarter. ADC comprises three main functions: In-Office Address Canvassing, In-Field Address Canvassing, and the MAF Coverage Study (MAFCS).

In-Office Address Canvassing is a continuous process that measures, assesses, and ensures the completeness and accuracy of the MAF and associated attributes and geospatial data. In-Office Address Canvassing, which began in September 2015 and continues during the frame development process, receives address and spatial data from GEOP/GDP. External updates to these data that occur during ADC are sent on an ongoing basis from GEOP/GDP as new information is provided by activities such as GEOP/GP and LUCA.

Any updates to address and spatial data resulting from In-Office Address Canvassing are provided to GEOP/GDP for incorporation into the MAF/TIGER data.

The BCUs that cannot be validated through In-Office Address Canvassing procedures or for which address characteristics cannot be adequately determined are sent to the field for in-person canvassing and become part of the In-Field Address Canvassing workload.

⑥ In-Field Address Canvassing is the process of having field staff visit specific geographic areas to identify every place where people could live or stay. Field staff compare what they see on the ground to the existing census address list and either verify or correct the address and location information. Listers knock on every door to verify address information, collect associated mailing address information, and collect information about any additional housing units present at the address. Field staff also classify each living quarter as a housing unit or group quarter. The results are made available to GEOP/GDP to update the MAF/TIGER data.

⑦ The MAF Coverage Study (MAFCS) is a recurring address canvassing operation to statistically determine the over/under coverage for the entire frame. MAFCS began in April 2016 and work continued into 2017. GEOP/GDP provides an extract of addresses from the MAF for the MAFCS to sample. The MAFCS performs field-work and analyzes the sample to determine any overcoverage and undercoverage issues resulting from the In-Office Address Canvassing work. The results of the MAFCS are used to improve In-Office Address Canvassing procedures.

⑧ GEOP/GDP provides initial address and spatial data, including the TEA designations and the field management area delineations to RPO so it can create the initial enumeration case universe. RPO uses this information to create workload for each of the response data operations, including Forms Printing and Distribution operation, Internet Self-Response operation, Census Questionnaire Assistance operation, Nonresponse Followup operation (NRFU), Update Leave operation (UL), Update Enumerate operation (UE), Group Quarters operation (GQ), and Enumeration at Transitory Locations operation (ETL).

9 Additional updates to the MAF/TIGER data may be identified after the initial universe is sent to RPO as a result of the LUCA appeals, New Construction, CRO, and subsequent refreshes of USPS DSF data. These data are provided to RPO in what is known as the Supplemental Universe.

LUCA includes an appeals process to allow participants to contest the Census Bureau's responses to their inputs. Once LUCA participants receive their feedback materials, they have 30 calendar days to file an appeal with the LUCA Appeals Office within the Office of Management and Budget (OMB). Upon receipt of a LUCA appeal, the LUCA Appeals Office uses the supporting documentation sent by the participant to decide whether to accept or reject an appeal. Once OMB makes a determination on a LUCA appeal, it notifies the participant of the determination. The LUCA Appeals Office delivers accepted LUCA appeals to GEOP/GDP, which processes the appealed addresses, updating the MAF/TIGER data accordingly.

The New Construction project utilizes the expertise of tribal, state, and local governments to improve the accuracy and completeness of the address list used for the 2020 Census. The purpose of the New Construction project is to obtain city-style addresses for newly built housing units in blocks where census questionnaires are delivered through the self-response method. New addresses for units outside the self-response area will be added to the address list at the time of questionnaire delivery in UL areas or during the enumeration attempt in UE areas. The Census Bureau asks participants in the New Construction project to submit addresses of any housing units for which basic construction (closing the structure to the elements) will be completed by or before Census Day (April 1, 2020).

CRO, in partnership with FSCPE, enhances the accuracy of the 2020 Census through remediating potential gaps in coverage by implementing an efficient and equitable process to identify missing housing units, and identifying and correcting missing or geographically misallocated large group quarters and their population. For frame development, GEOP/GDP sends housing unit and group quarters counts to CRO for validation. Any address changes resulting from CRO are incorporated into the MAF/TIGER data by GEOP/GDP.

10 Additional frame development support is provided by address updates from UL, UE, GQ, and ETL, and from NRFU's field verification activities. As noted above, universe and address updates occur during field operations. All listing results and other address changes identified through the field data collection operations are sent back to GEOP/GDP through the RPO Geographic Data Integration function.

11 Once data collection is complete, the final address and spatial data are sent from GEOP/GDP to the RPO Decennial Response Processing Function, which uses the geographic data to prepare the response data for subsequent tabulation and data products creation activities.

12 The final geographic data files (Tabulation Geography data) are sent from GEOP/GDP to DPD to be used in the creation of the various 2020 Census data products. DPD uses this geographic data to determine how to structure and layer the data by geographic area (e.g., state, city, and tract).

At the conclusion of the 2020 Census, ARC receives final geographic products from GEOP/GDP frame development to be transferred to the National Archives and Records Administration (NARA) as required.

#### **2.4.2 Data Products and Archiving Integrated Operations Diagram**

Figure 3 is an Integrated Operations Diagram, which describes the design concepts for all 2020 Census operations associated with the development and dissemination of 2020 Census data products covering the 50 states, the District of Columbia, and Puerto Rico. The Data Products and Dissemination operation (DPD) is the primary operation involved in these activities. DPD receives data from the Response Processing operation (RPO), the Geographic Programs operation (GEOP) and the Federally Affiliated Count Overseas operation (FACO) to create apportionment data products (counts), which are delivered to the President for use by Congress for apportioning seats in the House of Representatives. Data from RPO and GEOP are also used to create redistricting data products for use by the states for redistricting and other data products for use by the public. DPD also receives data for the Island Areas Censuses operation (IAC) from GEOP and the RPO Island Areas Response Processing function. IAC data are not applicable to Count Question Resolution activities, nor are they involved with apportionment or FACO.

All final data products as well as official response data from the 2020 Census are sent to the Archiving operation (ARC) for archival within the Census Bureau and to the National Archives and Records Administration (NARA) for permanent retention. Island Areas Censuses' materials and data products and additional information collected during data collection are also archived.

Three other operations support the dissemination of data. The Redistricting Data Program operation (RDP) coordinates the dissemination of redistricting data products to the states. The Integrated Partnership and Communications operation (IPC) provides support in communicating information about the data products. Finally, the Count Question Resolution operation (CQR)

provides a mechanism for governmental units to challenge the accuracy of their final 2020 Census counts.

The discussion below walks the reader through the diagram, using the circled numbers to help the reader follow the flow.

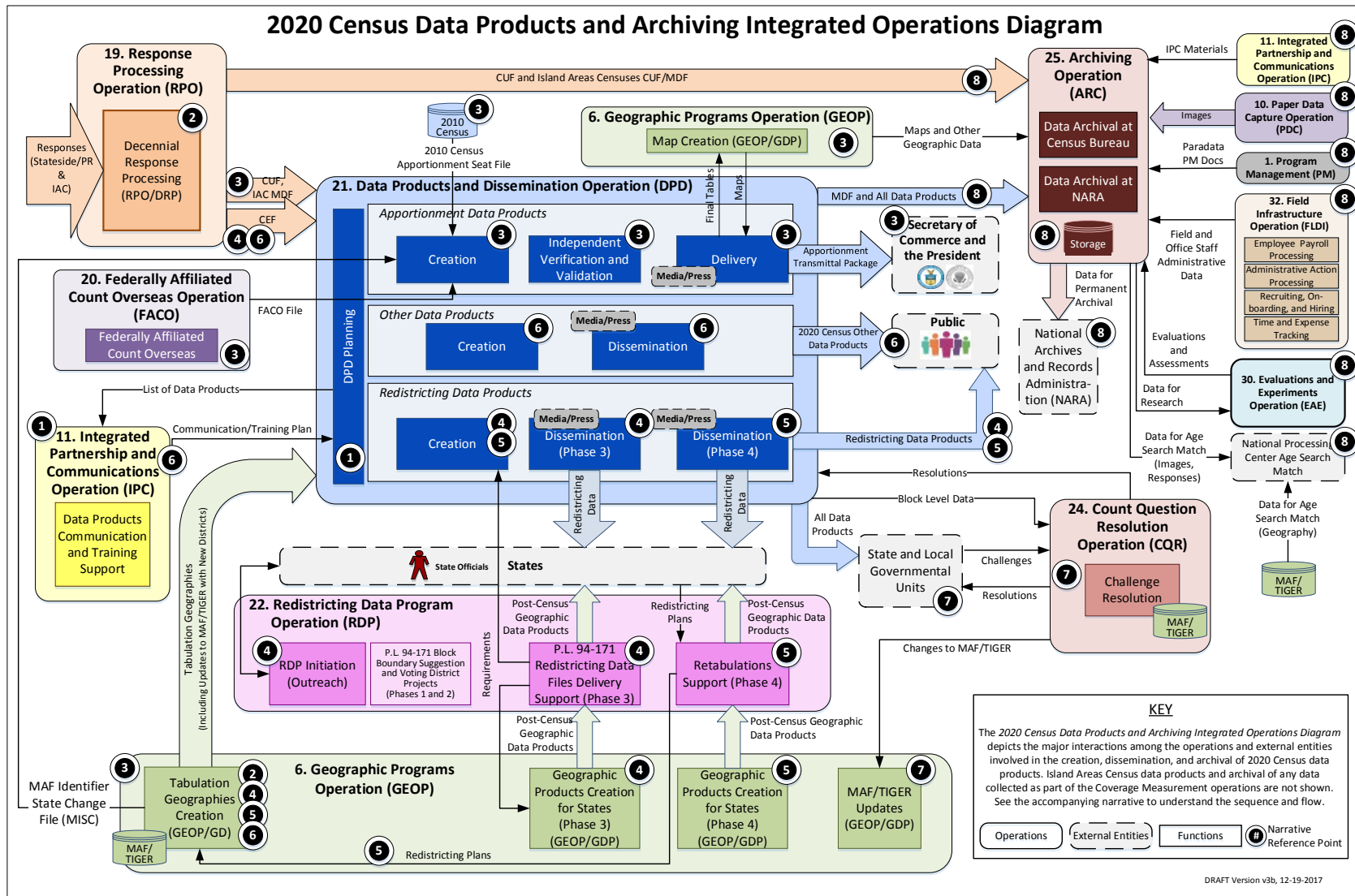


Figure 3: 2020 Census Data Products and Archiving Integrated Operations Diagram

① Before the start of the 2020 Census, DPD performs a planning function, creating specifications for the various data products and creating the list of data products and providing it to the IPC so it can create a plan for the training and communications support required to disseminate 2020 Census data products.

② Once data collection is complete, the RPO Decennial Response Data Processing (RPO/DRP) function processes the 2020 Census response data for the 50 states, the District of Columbia, and Puerto Rico (stateside/Puerto Rico data) and creates the Census Unedited File (CUF). The CUF is provided to DPD as input to the apportionment process. The CUF comprises 50 separate files (one for each state), which are used to create the apportionment data products and additional two files for the District of Columbia and Puerto Rico.

CUF is further processed by RPO to produce the Census Edited File (CEF). CEF is provided to DPD, which uses this data to create the Microdata Detail File (MDF). The MDF, which contains microdata (one record per housing unit and group quarters enumeration data), is used by DPD to create the redistricting data products and the other data products.

In addition, the response data from the IAC will be processed by RPO to produce the Island Areas Censuses CUF, Island Areas Censuses CEF, and Island Areas Censuses MDF.

The GEOP Geographic Delineations (GEOP/GD) function creates tabulation geographies and sends these to DPD so it can link the blocks and housing unit records to specific geographies to produce the data products.

### **Apportionment Data Products**

③ The primary requirement served by the decennial census is the apportionment of seats to the states for the House of Representatives. DPD creates the apportionment counts and delivers them to the President of the United States (through the Secretary of Commerce) to provide to Congress by December 31, 2020.


DPD performs three functions to create the apportionment products: creation, independent verification and validation, and delivery. To create the products, DPD receives, verifies, and tallies the final 2020 Census CUF from RPO and the Master Address File (MAF) Identifier State Change (MISC) File from GEOP to create a final resident population file, which is then combined with the count of federally affiliated people overseas, provided by FACO. Apportionment calculation formulas are then applied, and the results are validated to create the final apportionment results. These results go through an independent verification and validation

by Census Bureau staff and are then used to create the final apportionment tables, which illustrate the apportionment population by state and the corresponding number of seats in the U.S. House of Representatives, including the change in seats per state since the 2010 Census Apportionment Seat File was calculated. DPD then creates a memo and a draft letter to the President from the Secretary of Commerce and sends these, with the Final Apportionment Tables, to the Secretary of Commerce. The transmittal package includes three unique tables:

- Apportionment Population and Number of Representatives (for the 50 states).
- Resident Population (for the 50 states, the District of Columbia, and Puerto Rico).
- Federally Affiliated Overseas Population (for 50 states and the District of Columbia).

The final tables are also made available to the Geographic Data Processing function within GEOP (GEOP/GDP), which produces map illustrations of the population results. The data and maps are published to the Census Bureau website after a news conference with the media.

### **Redistricting Data Products**

 Public Law (P.L.) 94-171 requires the development of redistricting data products to be made available to state officials. RDP is the operation responsible for ensuring that P.L. 94-171 is carried out and serves as the Census Bureau's point of contact for the program, handling all communications and providing training and support to the states for the program.

Mid-decade, RDP initiates outreach to the states to invite them to participate in the program and establish a liaison. RDP then conducts the first two phases of the program: the Block Boundary Suggestion Project (Phase 1) and the Voting District Project (Phase 2). These phases are shown in light pink, as they happen before the creation of any data products.

Once the 2020 Census data collection is complete, DPD uses the CEF from RPO to create the 2020 Census MDF. The MDF and geographic data from the GEOP/GDP are used to create the redistricting data files in accordance with requirements provided by RDP. The files go through several processing and review steps before being disseminated. Various embargoes are used to ensure proper timing of the release and receipt of the data. DPD releases the redistricting data to the states, the media, and the public, coordinating the release to the states with RDP to ensure the data are received. RDP also works with GEOP to release geographic data products. GEOP creates the geographic data products in accordance with requirements provided by RDP, and then sends these products to RDP, which sends them to the states. This first release of redistricting data products and geographic products is referred to as Phase 3.

5 Once the states use the 2020 Census data to develop their redistricting plans, Phase 4 of RDP occurs. States send their new redistricting plans (updated congressional districts and state legislative districts) to RDP, which reviews them and provides them to GEOP to update the MAF/TIGER system with the new districts. GEOP sends the updated congressional and state legislative district tabulation geographies to DPD, which retabulates the 2020 Census redistricting data using the new district boundaries. As with Phase 3, DPD releases the updated data to the states in coordination with RDP. GEOP updates the geographic products and provides them to RDP, which sends them to the states.

### **Other Data Products**

6 A key service provided by DPD is the development of specific 2020 Census data products for the public. These products go through a two-step process to create and then disseminate the products.

To create the stateside/Puerto Rico data products, DPD uses the 2020 Census MDF created earlier and geographic data from GEOP. The geographic data are used to determine how to structure and layer the data by geographic area (e.g., state, city, and tract). The MDF data are tabulated based on rules and specifications, and the tabulated results are reviewed for accuracy. DPD enhances the data and creates data products by generating and applying meta tags and developing geographic and visualization products to make the data more usable. These products are reviewed by subject matter experts and approved by management before being held under public embargo.

In addition to the Stateside/Puerto Rico data products described above, DPD also produces a set of data products for the Island Areas Censuses using the Island Areas Tabulation Geography data from GEOP and the Island Areas CUF and Island Areas MDFs from RPO. DPD informs the media of the availability of the data, and once the public embargo is released, DPD publishes the data products to the Census Bureau's website. IPC provides a plan for and supports efforts to communicate and demonstrate to data users how the 2020 Census data can be used in their communities.

DPD provides ongoing technical support on these various data products and also receives and responds to customer feedback and inquiries.

## Count Question Resolution

7 The states have a finite period to challenge the counts and provide supporting evidence. This is done through CQR, which works to resolve the governmental challenges by reviewing the block level data products provided by DPD and geographic data in the MAF/TIGER system. The governmental unit and DPD are informed of the resolution to its challenge. Any changes resulting from this activity are reflected in MAF/TIGER, as part of GEOP/GDP; however, the changes do not affect the apportionment or redistricting data. If an issue with the data products does arise, DPD adds a user note and provides the new data in a static table (the files are not regenerated).

## Archiving

8 2020 Census data are required to be archived so that they can be released to the public 72 years after the completion of the census in accordance with Title 44 of the United States Code as amended 92 Stat. 915; Public Law 95-416, October 5, 1978. ARC is responsible for archiving the following data with NARA:

- Response data in the form of the CUF and Island Areas Censuses CUF/MDF (from RPO).
- MDF (from DPD).
- All data products (from DPD).
- Black and white images of the paper questionnaires captured through the Paper Data Capture operation (PDC).
- Apportionment maps and other geographic products (from GEOP/GDP).
- Promotional, marketing, and communication materials (from IPC).
- Program management documents from the Program Management operation (PM).
- Assessments and evaluations from the Evaluations and Experiments operation (EAE).

In addition, ARC stores other data for archival at the Census Bureau, including all paradata and the recruiting, payroll, personnel, hiring, retention, and time and expense data for temporary field and office staff. These data are used for research to support planning that is performed by EAE for the 2030 Census. These data also support legal inquiries related to temporary field personnel. Finally, ARC sends 2020 Census data to the National Processing Center to support Age Search Match, a legally required program.

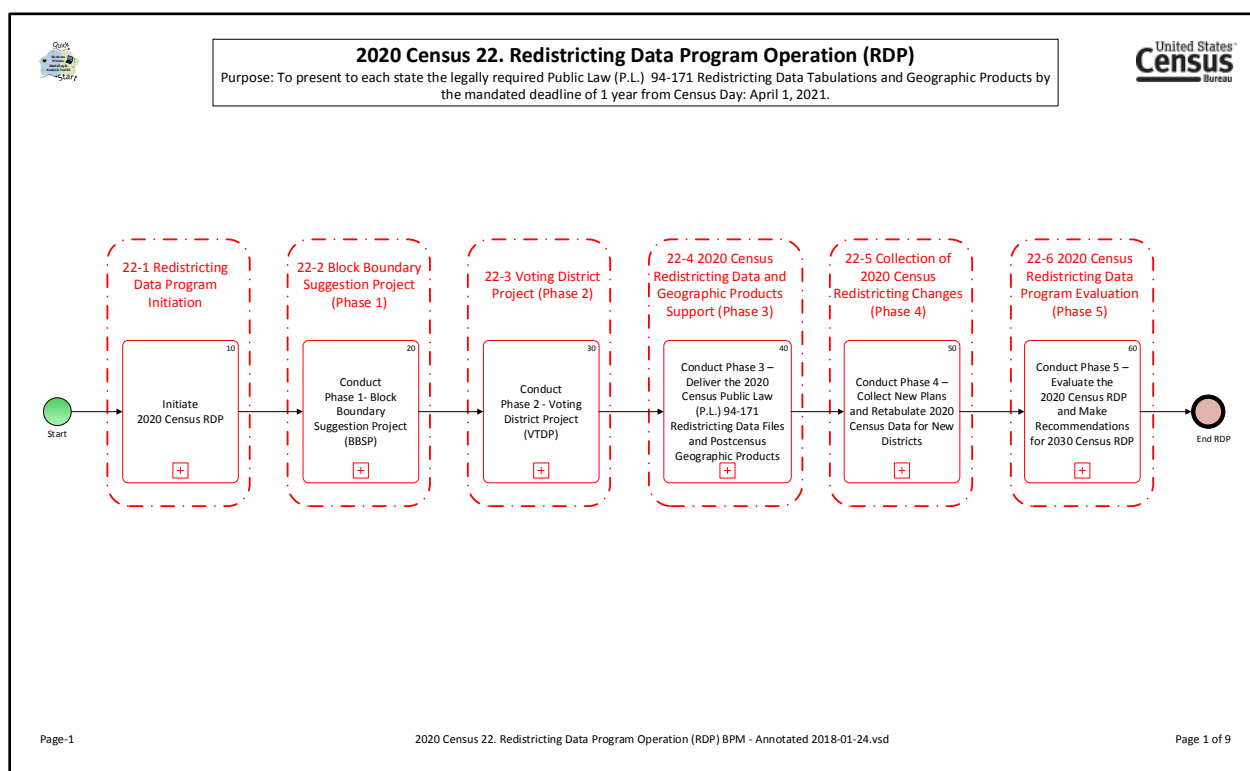
## **2.5 Redistricting Data Program (RDP) Design Assumptions**

- Geographic Update Partnership Software (GUPS) will be sufficiently developed on timelines to support Phase 1 and Phase 2 of the program.
- Products will be delivered in a time frame to support program delivery requirements.
- Headquarters will have sufficient IT infrastructure to support the program.
- Collection of updates to Congressional Districts (CDs) and State Legislative Districts (SLDs), Phase 4, will occur on a two-year cycle beginning in 2021.
- When the program captures updates to CDs and SLDs, the Geographic Programs operation (GEOP) will update the shapefiles, PDF maps, and block assignment files.
- The GEOP will continue to generate shapefiles on the appropriate timeline for mailing with Phase 1, Phase 2, and Phase 3 materials.
- State RDP liaisons will submit updates and block boundary suggestions within the Census Bureau established timeline.
- GEOP will process updates submitted in Phase 1 and Phase 2 in time to create verification products.
- Centurion (which includes the Secure Web Incoming Module and the Secure Web Exchange Control System) will accept state submissions and transfer them to the appropriate location on the Census Bureau network for review and processing.

### 3. Redistricting Data Program Operation (RDP) Detailed Process Description

Figure 4 is a top-level Business Process Model (BPM) showing the Level 1 activity areas within the Redistricting Data Program operation (RDP). BPMs for the 2020 Census follow industry-standard Business Process Model and Notation (BPMN). An explanation of how to read the BPMN notations and a full sized copy of all of the BPMN diagrams for this operation are provided under separate cover.

This top-level BPM serves as the Context Model for the RDP Operation. A BPMN Context Model displays the high-level activities within the operation and relationships between them, whereas the IDEF0 Context Diagram shown earlier depicts the boundaries of the operation or activity and the interfaces between the operation or activity and other operations and activities with which it is associated.



**Figure 4: Redistricting Data Program Operation Context Model**

The RDP operation is subdivided into the following Activity Areas.

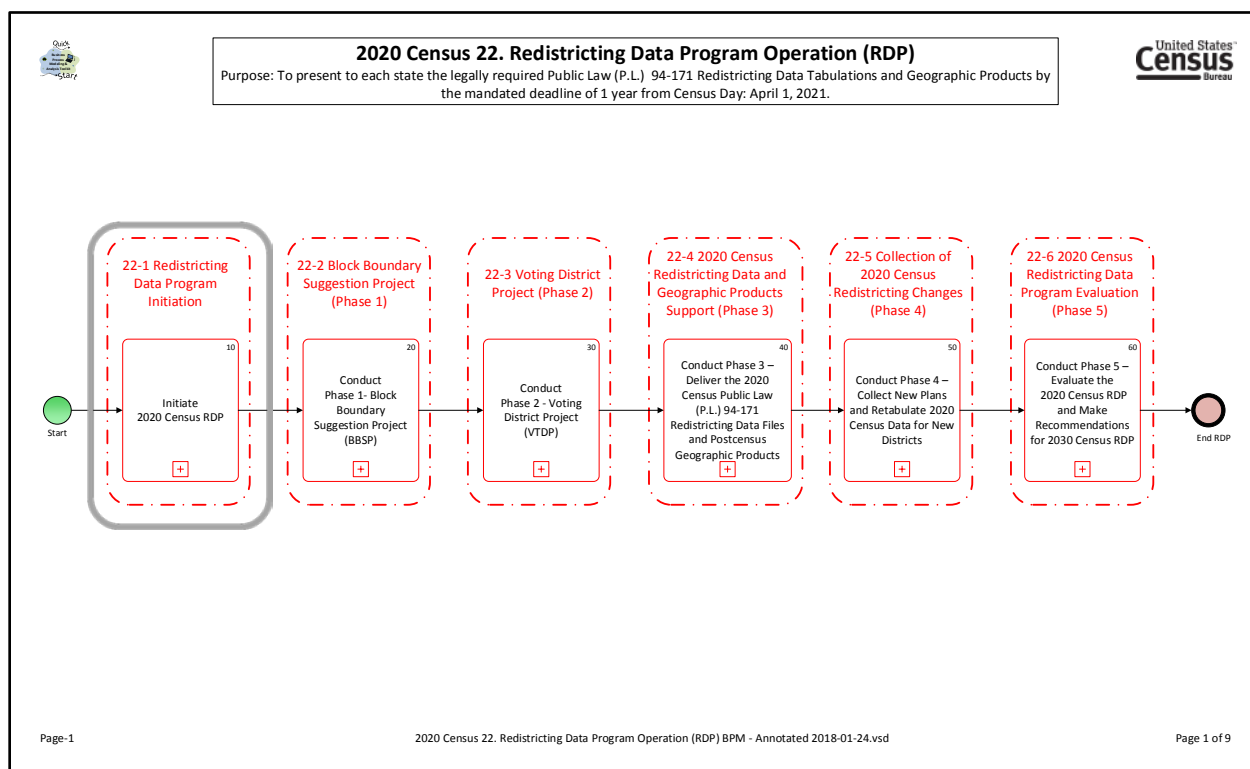
- Redistricting Data Program Initiation [RDP 22-1]
- Block Boundary Suggestion Project (Phase 1) [RDP 22-2]

- Voting District Project (Phase 2) [RDP 22-3]
- 2020 Census Redistricting Data and Geographic Products Support (Phase 3) [RDP 22-4]
- Collection of 2020 Census Redistricting Changes (Phase 4) [RDP 22-5]
- 2020 Census Redistricting Data Program Evaluation (Phase 5) [RDP 22-6]

The business processes for each of these Level 1 activity areas are discussed along with their inputs and outputs in the following subsections.

### 3.1 Redistricting Data Program Initiation [RDP 22-1]

Figure 5 shows the BPM for the Redistricting Data Program Initiation [RDP 22-1] activity area (area within the gray rounded rectangle) and its constituent activities within the overall context of the RDP Operation.



**Figure 5: Redistricting Data Program Initiation [RDP 22-1] Constituent Activities**

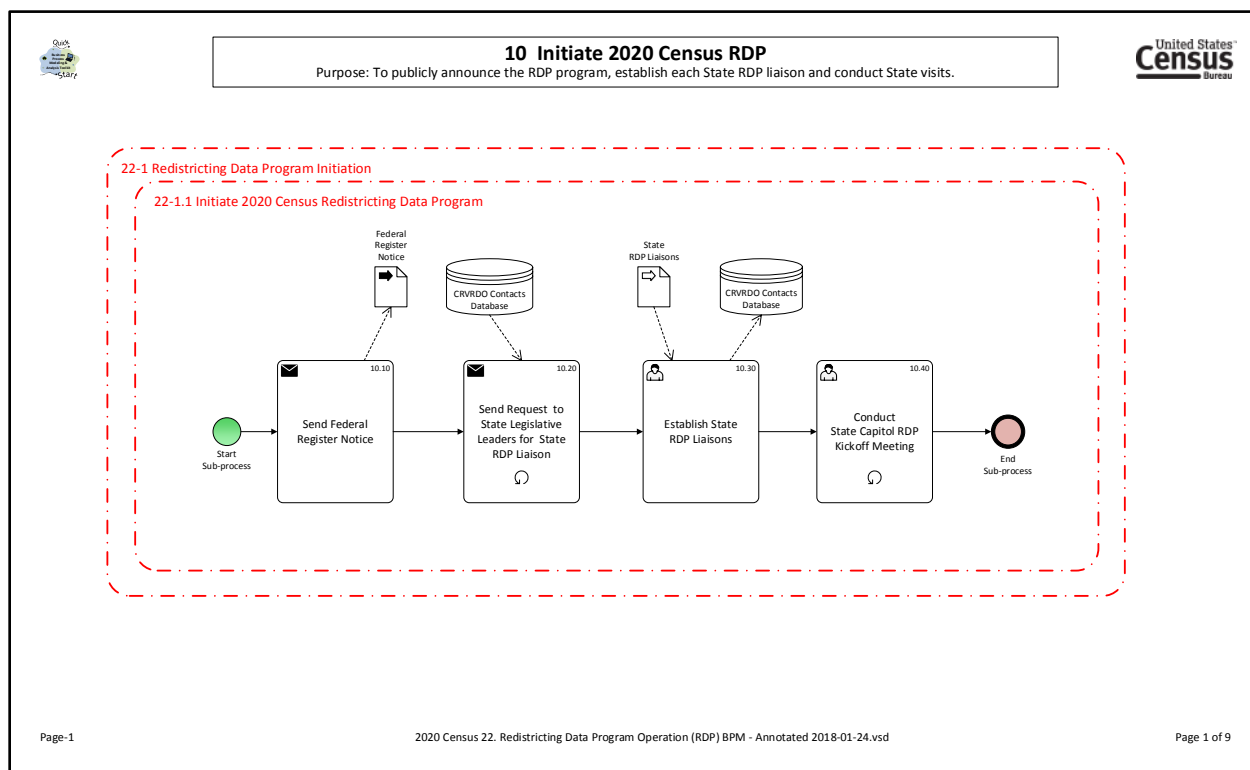
The Redistricting Data Program Initiation activity area has only one operational subactivity as shown below.

- Redistricting Data Program Initiation [RDP 22-1].
  - Initiate 2020 Census Redistricting Data Program [RDP 22-1.1].

The subsequent section describes the Redistricting Data Program Initiation operational subactivity in detail.

### 3.1.1 Initiate 2020 Census Redistricting Data Program [RDP 22-1.1]

Figure 6 gives a detailed view of the constituent activities that make up the “Initiate 2020 Census Redistricting Data Program” operational subactivity.



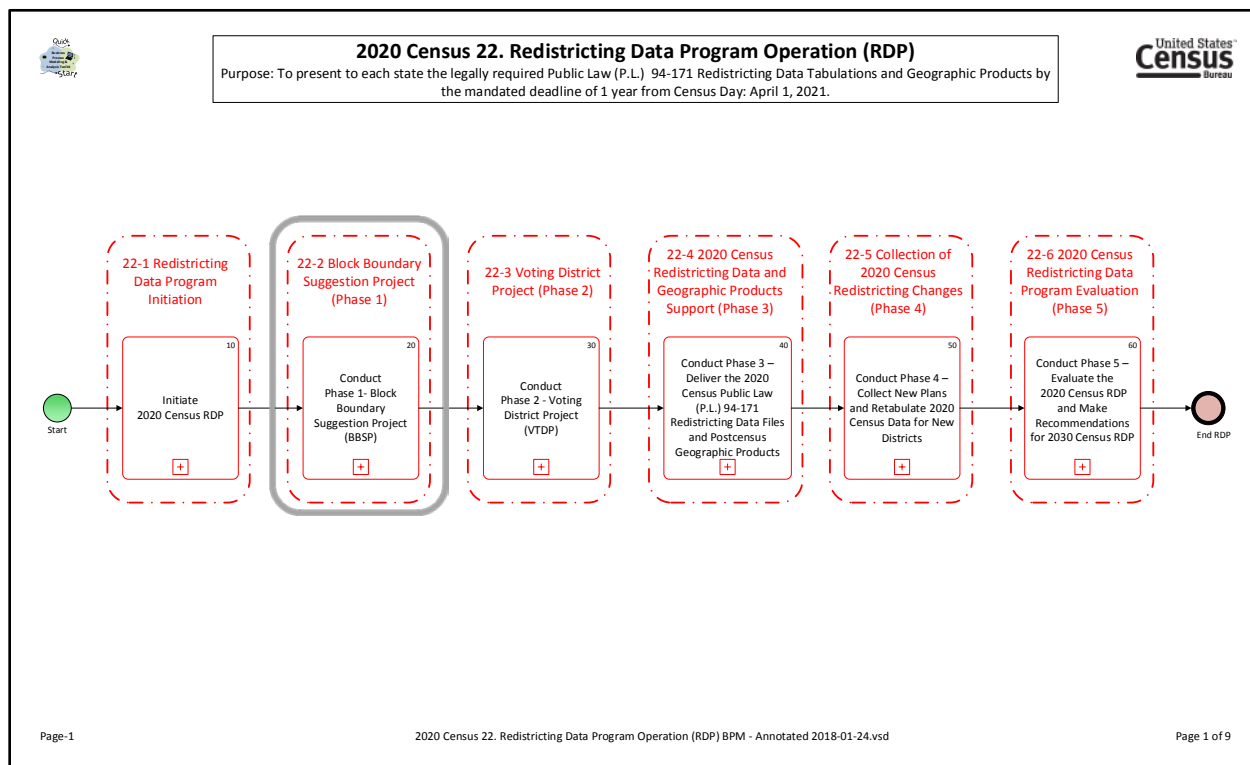
**Figure 6: Initiate 2020 Census Redistricting Data Program**

The Census Bureau initiates the RDP when it announces the program in the *Federal Register*. This *Federal Register* notice is written by the staff in the Census Redistricting and Voting Rights Data Office (CRVRDO). The notice describes how the program will be organized (how many phases and what will occur in each phase) and provides a very high-level timeline. After the program announcement, CRVRDO staff send an official request to the state legislative leaders

from both the majority and minority parties, asking them to appoint a nonpartisan liaison who will work with the Census Bureau for the entirety of the program. The legislative leadership contacts are stored and regularly updated in the CRVRDO's contact database. Once the CRVRDO receives the name of the liaison from each state, the Office adds the liaison's name to the CRVRDO contact database. Once the state liaisons are appointed, the CRVRDO works with them to schedule state capital RDP kickoff meetings. During those meetings, Census Bureau staff, including HQ and field staff, present information on the RDP, the 2020 Census Design, 2020 Census geographic programs, planned 2020 Census field outreach, and other activities to whomever the liaison decides to invite. The purpose of the visits is to inform state leaders of what is planned for the 2020 Census and solicit their support and participation in various aspects of the 2020 Census, specifically the RDP. Visits require mechanisms that include HQ and field office staff.

### 3.2 Block Boundary Suggestion Project (Phase 1) [RDP 22-2]

Figure 7 shows the BPM for the Block Boundary Suggestion Project (Phase 1) [RDP 22-2] activity area (area within the gray rounded rectangle) and its constituent activities within the overall context of the RDP Operation.



**Figure 7: Block Boundary Suggestion Project (Phase 1) [RDP 22-2] Constituent Activities**

The Block Boundary Suggestion Project (Phase 1) activity area has only one operational subactivity as shown below.

- Block Boundary Suggestion Project (Phase 1) [RDP 22-2].
  - Conduct Phase 1 – Block Boundary Suggestion Project (BBSP) [RDP 22-2.1].

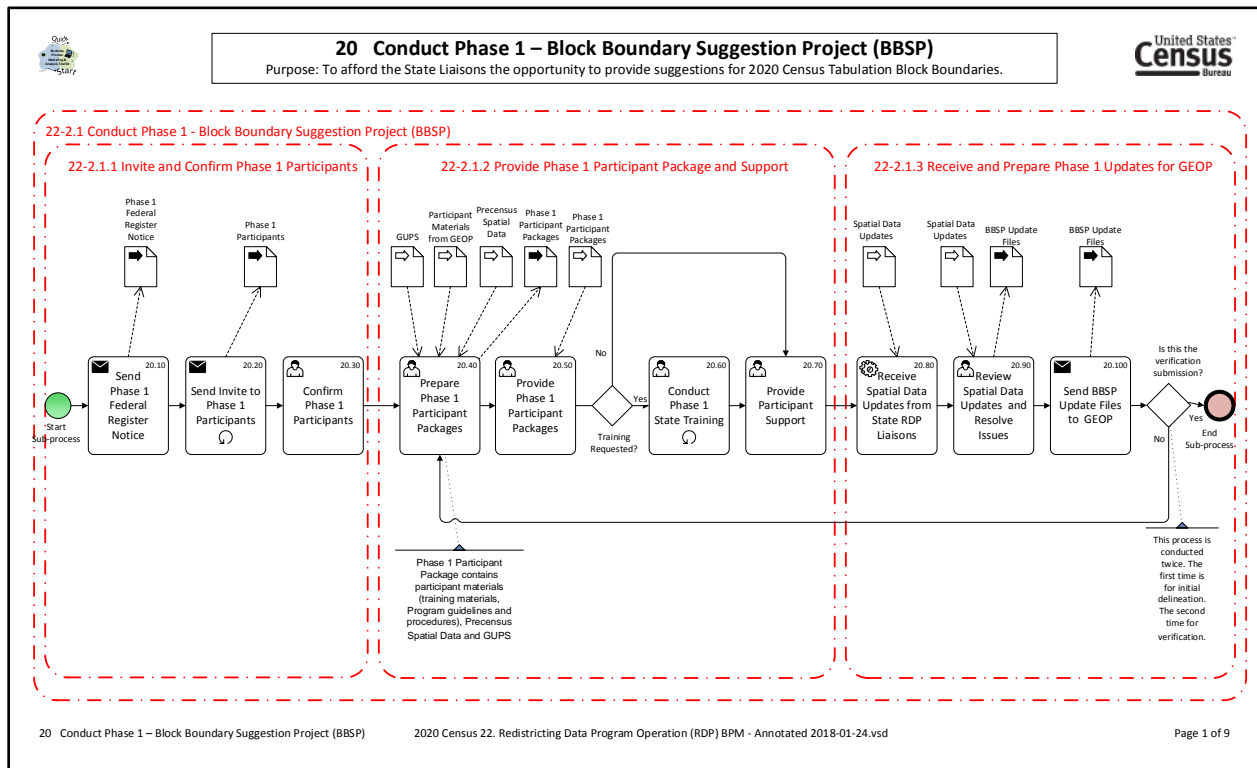
The subsequent section describes the Block Boundary Suggestion Project (Phase 1) operational subactivity in detail.

### **3.2.1 Conduct Phase 1 – Block Boundary Suggestion Project (BBSP) [RDP 22-2.1]**

The “Conduct Phase 1 – Block Boundary Suggestion Project (BBSP)” operational subactivity is subdivided into the following constituent activities:

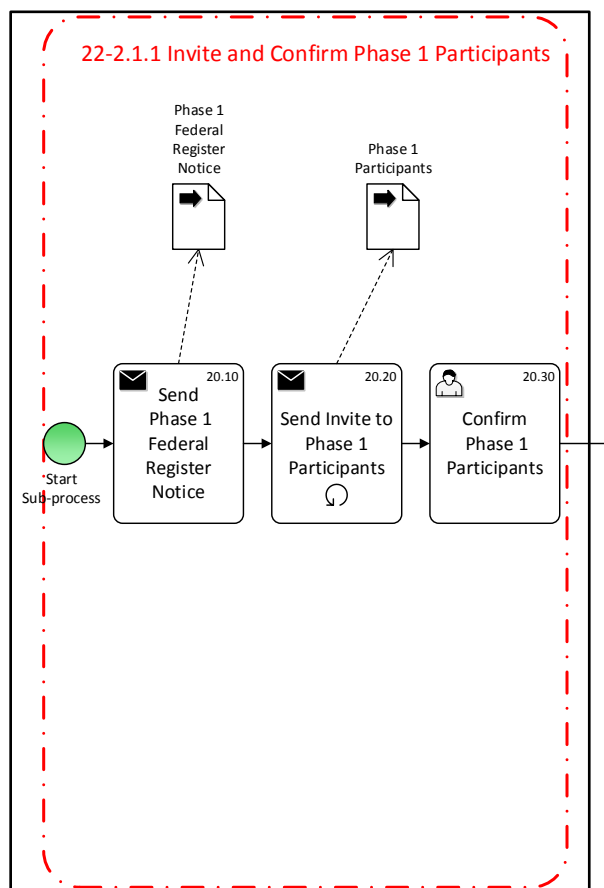
- Conduct Phase 1 – Block Boundary Suggestion Project (BBSP) [RDP 22-2.1].
  - Invite and Confirm Phase 1 Participants [RDP 22-2.1.1].
  - Provide Phase 1 Participant Packages and Support [RDP 22-2.1.2].
  - Receive and Prepare Phase 1 Updates for GEOP [RDP 22-2.1.3].

A detailed view of the constituent activities that make up the “Conduct Phase 1 – Block Boundary Suggestion Project (BBSP)” operational subactivity is given in Figure 8 below.



**Figure 8: Conduct Phase 1 – Block Boundary Suggestion Project (BBSP)**

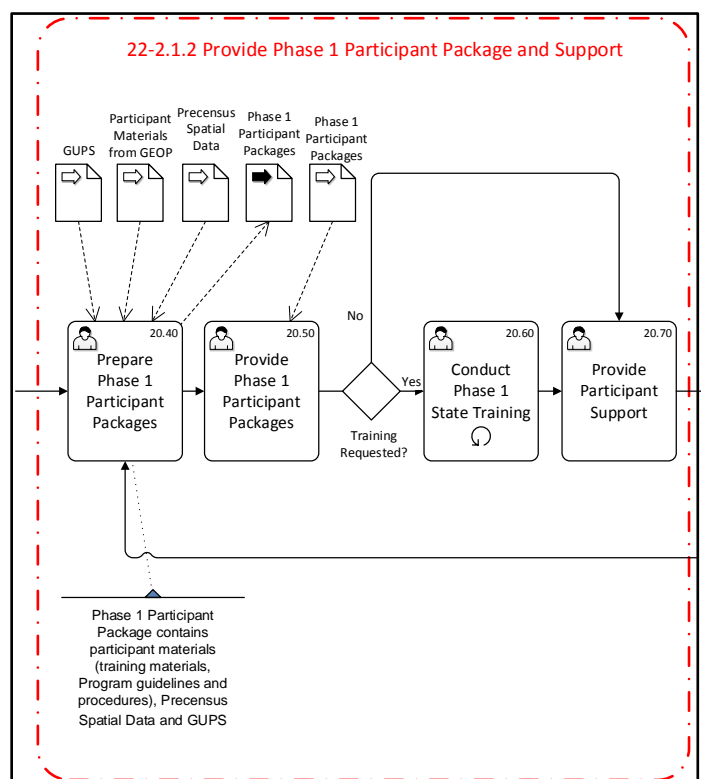
### 3.2.1.1 Invite and Confirm Phase 1 Participants [RDP 22-2.1.1]



**Figure 9: Invite and Confirm Phase 1 Participants**

As with the overall RDP, Phase 1 begins with an announcement of the phase commencement in the *Federal Register*. After this announcement, the CRVRDO will send a letter to the state RDP liaisons, inviting them to participate. The CRVRDO Contact Database is used to determine how to contact the liaisons. Based on the liaisons' response to the invitations, the CRVRDO confirms the participants (state RDP liaisons or their designees).

### 3.2.1.2 Provide Phase 1 Participant Package and Support [RDP 22-2.1.2]



### Figure 10: Provide Phase 1 Participant Package and Support

Once the CRVRDO has established which states will participate in Phase 1, the Office begins preparing participant packages for the liaisons. The packages include the following:

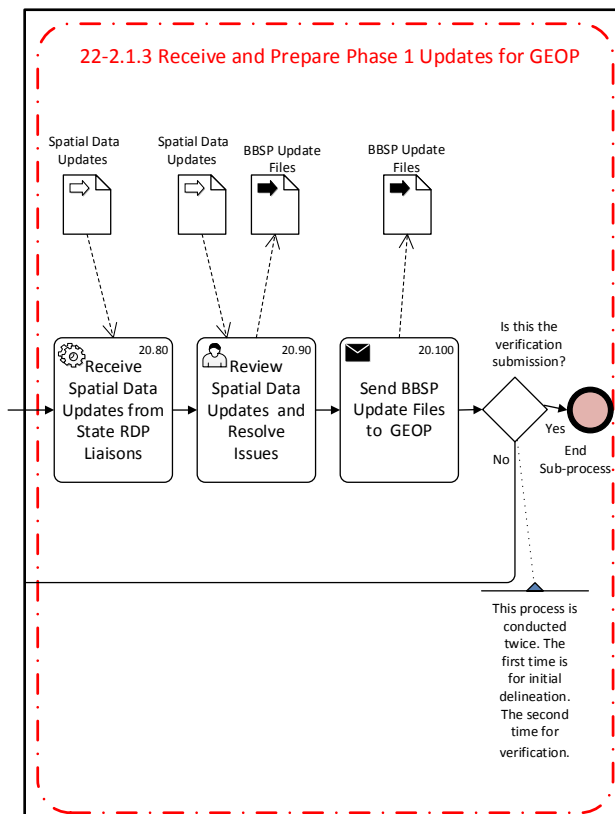
- GUPS – Census Bureau software provided to the states for use in creating and submitting their updates to the precensus spatial data.
- Participant materials – The GUPS user guide and the user guide for participants using their own GIS software in lieu of GUPS. The user guides include training materials and program guidelines and are inputs to the operation from the Geographic Programs operation (GEOP).
- Precensus Spatial Data – The shapefiles, which reflect boundaries and features as they exist in the MAF/TIGER System. The participants will update these shapefiles in GUPS or their own GIS and provide them back to the Census Bureau.

Once the participant packages have been prepared, the CRVRDO will provide them to the participants. The participants can request training, and if they do, the CRVRDO will provide training on how to use the GUPS or other GIS software to suggest features for use as tabulation

block boundaries and submit other feature and area updates. The CRVRDO staff or field staff will conduct the training in-person at the state training sites or by webinar.

The CRVRDO also provides other participant support as needed by the states. The CRVRDO encourages state participants to contact the Office at any time for technical support, questions, or to resolve any issues that might arise.

### 3.2.1.3 Receive and Prepare Phase 1 Updates for GEOP [RDP 22-2.1.3]



**Figure 11: Receive and Prepare Phase 1 Updates for the Geographic Programs Operation**

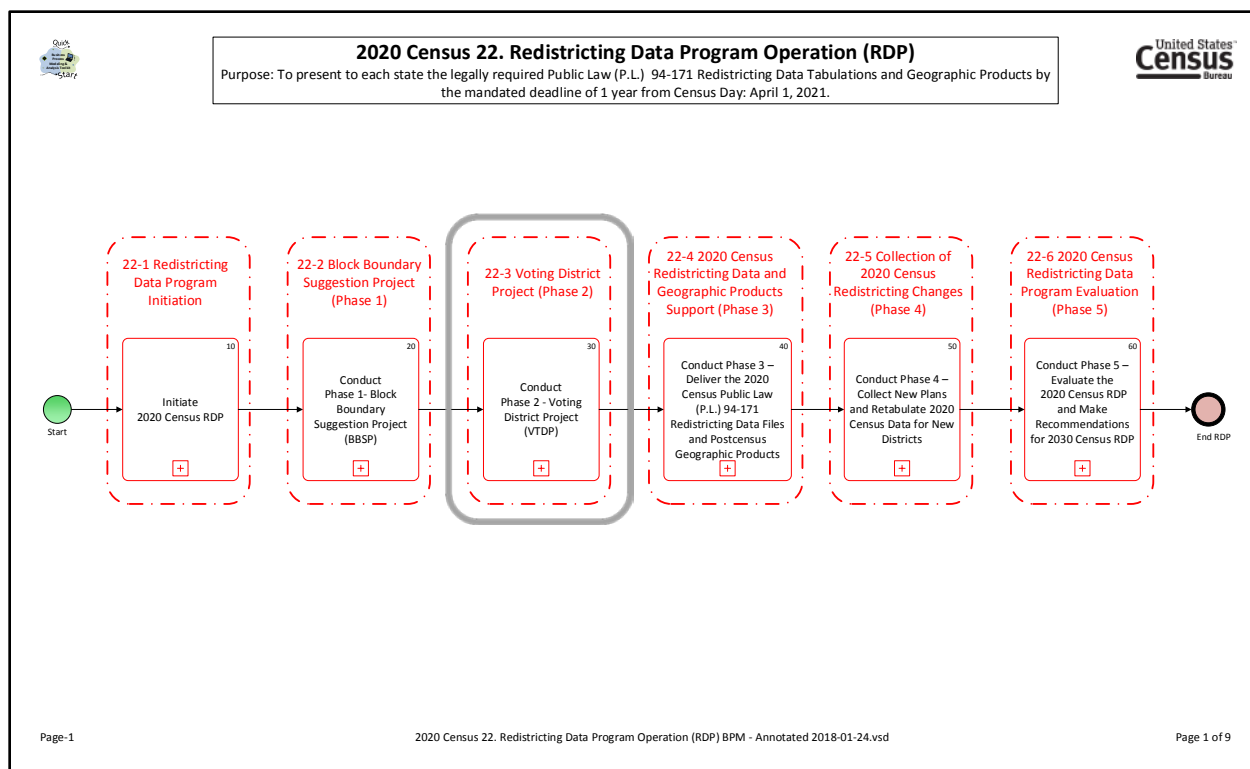
After the participants complete their updates to the precensus spatial data provided to them, using the GUPS or their own GIS software, they submit the updates to the Census Bureau, using Centurion, the Census Bureau’s secure file transfer system mechanism. The CRVRDO will then review the submitted data using the ArcGIS mechanism and look for any issues with the submissions. Issues will be resolved with the liaisons on a case-by-case basis. The CRVRDO will provide the CRVRDO-reviewed submissions (BBSP Update Files) to the GEOP for use in updating the MAF/TIGER System.

Phase 1 has an initial delineation part and a verification part. After the states go through the process described above in sections 3.2.1.2 and 3.2.1.3 once (initial delineation), the updates, as

described above, are sent to GEOP for processing into the MAF/TIGER System. Some months later, new participant packages are prepared. These packages are similar to those provided in the initial delineation, with the main difference being that the precensus spatial data are generated from the updated data in the MAF/TIGER system and reflect the BBSP updates made as a result of the initial delineation. The process described in sections 3.2.1.2 and 3.2.1.3 repeats in a process called verification. During verification, the state RDP liaisons can review the updated data to ensure the initial delineation updates were made correctly and update the spatial data again as necessary. The CRVRDO receives and reviews again the spatial data before sending them to the GEOP. After this verification, the process does not repeat again, and the subprocess ends.

### 3.3 Voting District Project (Phase 2) [RDP 22-3]

Figure 12 shows the BPM for the Voting District Project (Phase 2) [RDP 22-3] activity area (area within the gray rounded rectangle) and its constituent activities within the overall context of the RDP Operation.



**Figure 12: Voting District Project (Phase 2) [RDP 22-3] Constituent Activities**

The Voting District Project (Phase 2) activity area has only one operational subactivity as shown below:

- Voting District Project (Phase 2) [RDP 22-3].
  - Conduct Phase 2 – Voting District Project (VTDP) [RDP 22-3.1].

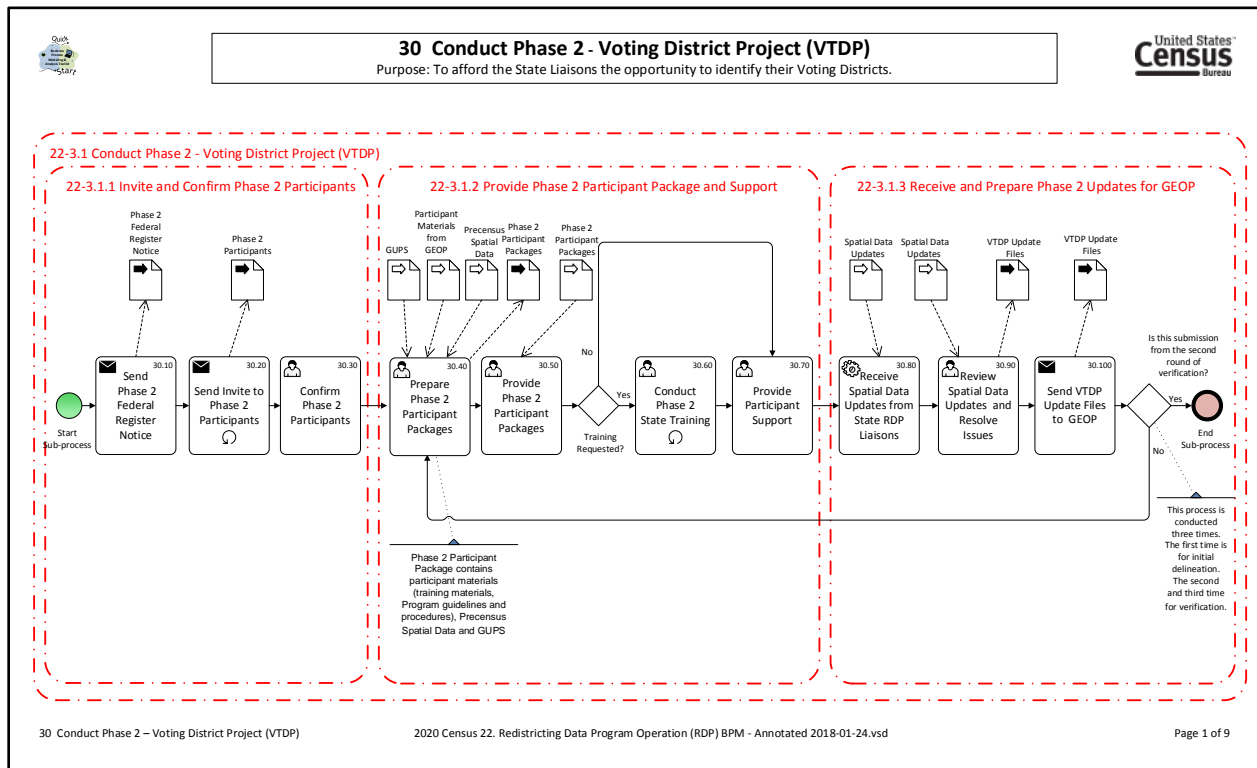
The subsequent section describes the Voting District Project (Phase 2) operational subactivity in detail.

### **3.3.1 Conduct Phase 2 – Voting District Project (VTDP) [RDP 22-3.1]**

The “Conduct Phase 2 – Voting District Project (VTDP)” operational subactivity is subdivided into the following constituent activities:

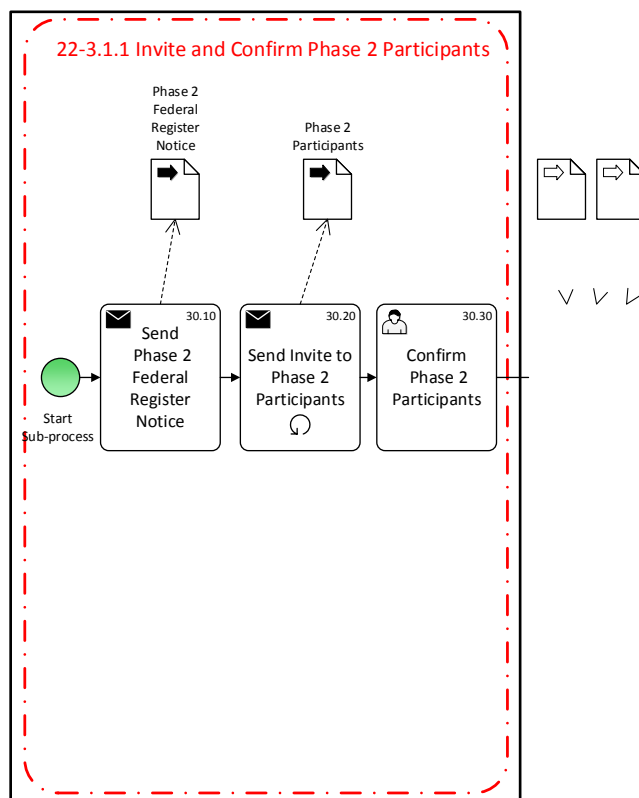
- Conduct Phase 2 – Voting District Project (VTDP) [RDP 22-3.1].
  - Invite and Confirm Phase 2 Participants [RDP 22-3.1.1].
  - Provide Phase 2 Participant Package and Support [RDP 22-3.1.2].
  - Receive and Prepare Phase 2 Updates for GEOP [RDP 22-3.1.3].

Figure 13 provides a detailed view of the constituent activities that make up the “Conduct Phase 2 – Voting District Project (VTDP)” operational subactivity.



**Figure 13: Conduct Phase 2 – Voting District Project (VTDP)**

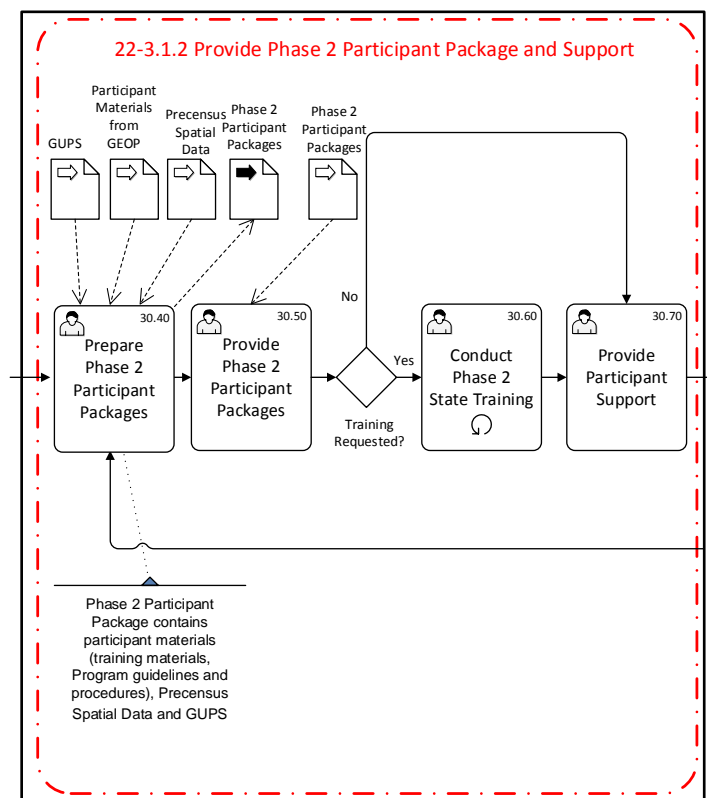
### 3.3.1.1 Invite and Confirm Phase 2 Participants [RDP 22-3.1.1]



**Figure 14: Invite and Confirm Phase 2 Participants**

As with the overall RDP and Phase 1, Phase 2 begins with an announcement of the phase commencement in the *Federal Register*. Following the announcement, the CRVRDO will send a letter to the state RDP liaisons, inviting them to participate. Based on the liaisons' response to the invitation, the CRVRDO confirms the participants.

### 3.3.1.2 Provide Phase 2 Participant Package and Support [RDP 22-3.1.2]



**Figure 15: Provide Phase 2 Participant Package and Support**

Once the CRVRDO has established which states will participate in Phase 2, the Office begins preparing participant packages for the liaisons. The packages include the following:

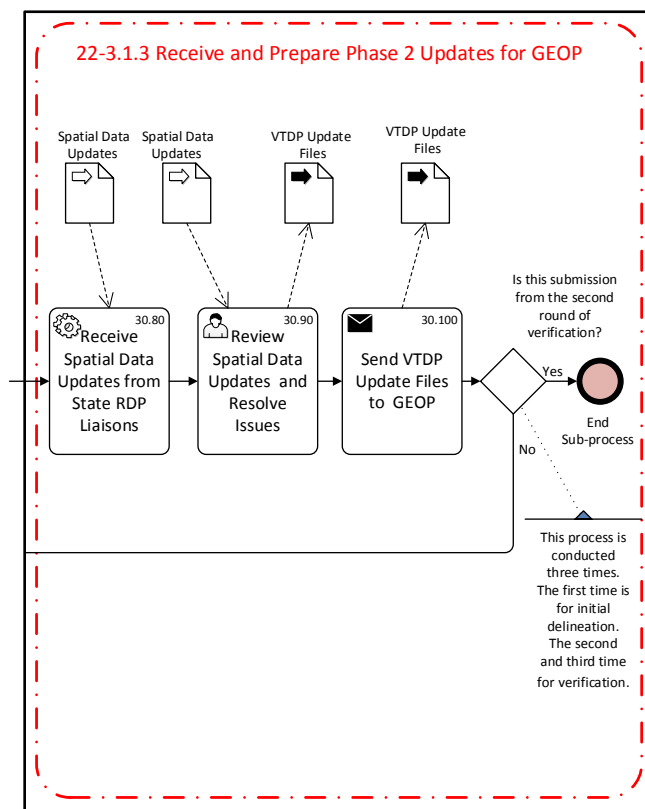
- GUPS – Census Bureau software provided to the states for use in creating and submitting their updates to the precensus spatial data.
- Participant materials – The GUPS user guide and the user guide for participants using their own GIS software in lieu of GUPS. The user guides include training materials and program guidelines and are inputs to this operation from the GEOP.
- Precensus Spatial Data – The shapefiles, an input from the GEOP, which reflect boundaries and features as they exist in the MAF/TIGER system. The participants will update these shapefiles in GUPS or their own GIS and send them back to the Census Bureau.

Once the participant packages have been prepared, the CRVRDO will provide them to the participants. The participants can request training, and if they do, the CRVRDO will provide training on how to use the GUPS or other GIS software to delineate voting districts (VTDs), suggest features or boundaries to hold as 2020 tabulation block boundaries, and submit other

feature and area updates. The CRVRDO staff or field staff will conduct the training in-person at the state training sites or by webinar.

The CRVRDO also provides other participant support as needed by the states. The CRVRDO encourages state participants to contact the Office at any time for technical support, questions, or to resolve any issues that might arise.

### 3.3.1.3 Receive and Prepare Phase 2 Updates for GEOP [RDP 22-3.1.3]



**Figure 16: Receive and Prepare Phase 2 Updates for the Geographic Programs Operation**

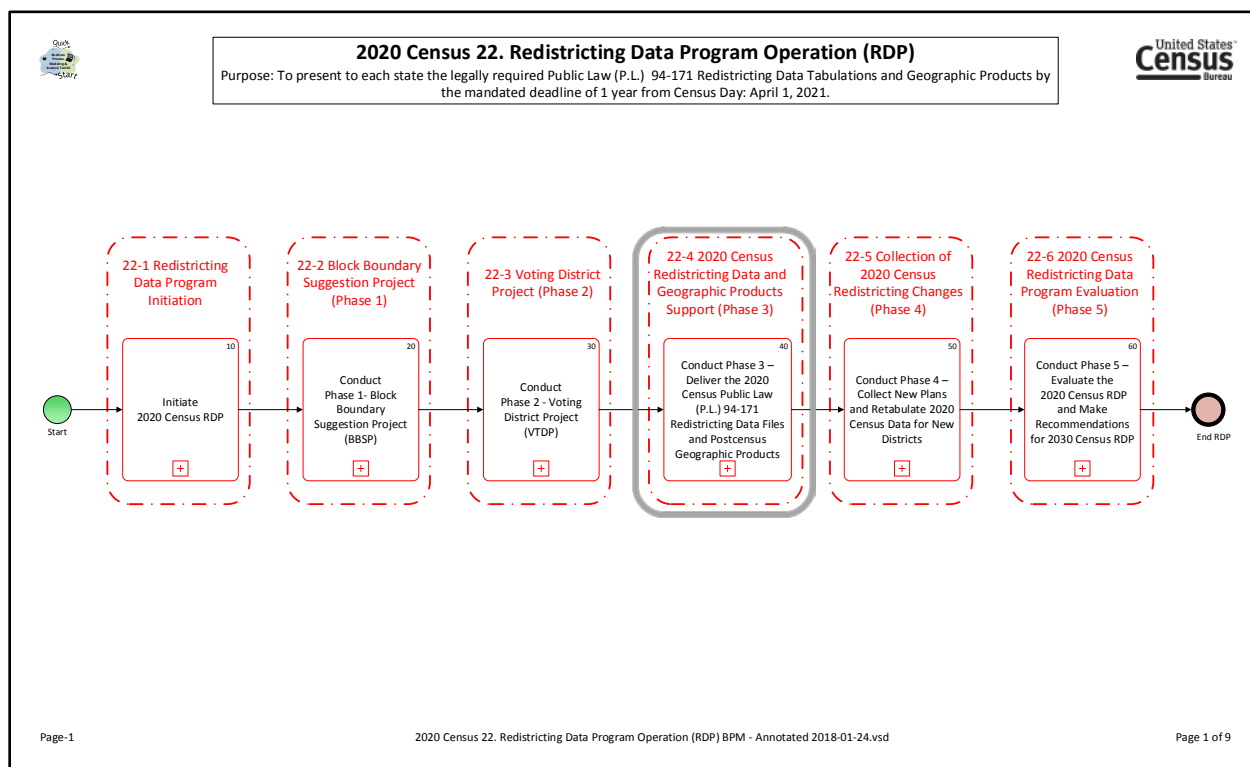
When state participants complete their updates to the precensus spatial data provided to them, using the GUPS or their own GIS software, they submit the updates back to the Census Bureau, using Centurion, the Census Bureau’s secure file transfer system mechanism. The CRVRDO will then review the submitted data using the ArcGIS mechanism and look for any issues with the submissions. Issues will be resolved with the liaison on a case-by-case basis. The CRVRDO will review submissions (VTDP Update Files) and send them to the GEOP for use in updating the MAF/TIGER system.

Like Phase 1, Phase 2 has an initial delineation part and a verification part. Unlike Phase 1, however, Phase 2 has two verification rounds. After the states go through the process described above in sections 3.3.1.2 and 3.3.1.3 once (initial delineation), the updates are sent to GEOP for

processing into the MAF/TIGER system, also as described above. Some months later, new participant packages are prepared. These packages are similar to the packages provided in the initial delineation, with the main difference being that the precensus spatial data are generated from the updated data in the MAF/TIGER system and reflect the updates made as a result of initial delineation. The process described in sections 3.3.1.2 and 3.3.1.3 repeats in verification. During the first round of verification, the state RDP liaisons can review the updated data to ensure initial delineation updates were made correctly and update the spatial data again as necessary. The CRVRDO will receive and review the spatial data updates again before sending them to the GEOP. After the GEOP processes those updates, another set of participant packages are prepared, reflecting all updates from the first verification, and sent to the state participants. States make any corrections or last minute updates and submit the files to the CRVRDO. The CRVRDO reviews the submissions and prepares a VTDP update file for the GEOP. This second round of verification was added to the RDP for the 2020 Census to accommodate states whose VTD boundaries change after the first round of verification. A second round of verification provides them the opportunity to submit those changes so the 2020 Census tabulations reflect the most up-to-date VTD boundaries. After this second round of verification, the process does not repeat again, and the subprocess ends.

### **3.4 2020 Census Redistricting Data and Geographic Products Support (Phase 3) [RDP 22-4]**

Figure 17 shows the BPM for the 2020 Census Redistricting Data and Geographic Products Support (Phase 3) activity area (area within the gray rounded rectangle) and its constituent activities within the overall context of the RDP Operation.



**Figure 17: 2020 Census Redistricting Data and Geographic Products Support (Phase 3)  
[RDP 22-4] Constituent Activities**

The 2020 Census Redistricting Data and Geographic Products Support (Phase 3) activity area is subdivided into one operational subactivity as shown below:

- 2020 Census Redistricting Data and Geographic Products Support (Phase 3) [RDP 22-4].
  - Conduct Phase 3 – Deliver the 2020 Census P.L. 94-171 Redistricting Data Files and Postcensus Geographic Products [RDP 22-4.1].

The subsequent section describes the 2020 Census Redistricting Data and Geographic Products Support (Phase 3) operational subactivity in detail.

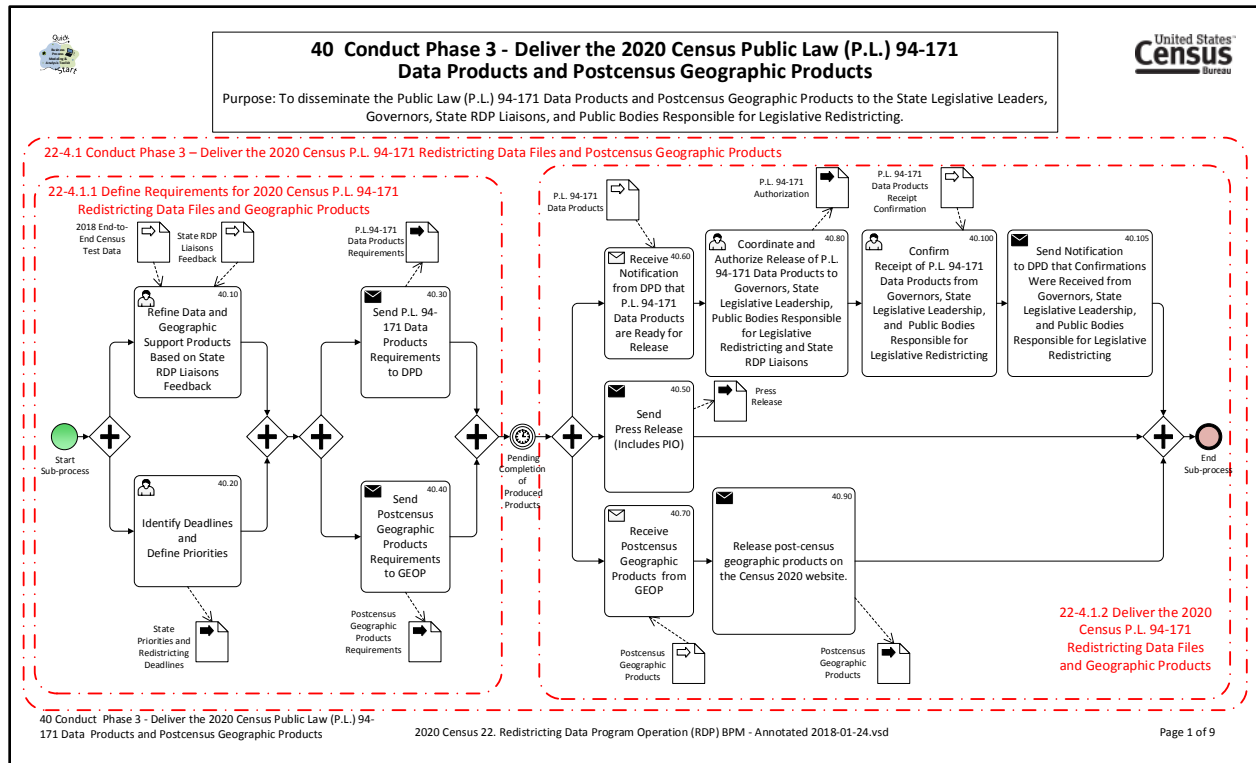
### **3.4.1 Conduct Phase 3 – Deliver the 2020 Census P.L. 94-171 Redistricting Data Files and Postcensus Geographic Products [RDP 22-4.1]**

The “Conduct Phase 3 – Deliver the 2020 Census P.L. 94-171 Redistricting Data Files and Postcensus Geographic Products” operational subactivity is subdivided into the following constituent activities:

- Conduct Phase 3 – Deliver the 2020 Census P.L. 94-171 Redistricting Data Files and Postcensus Geographic Products [RDP 22-4.1].

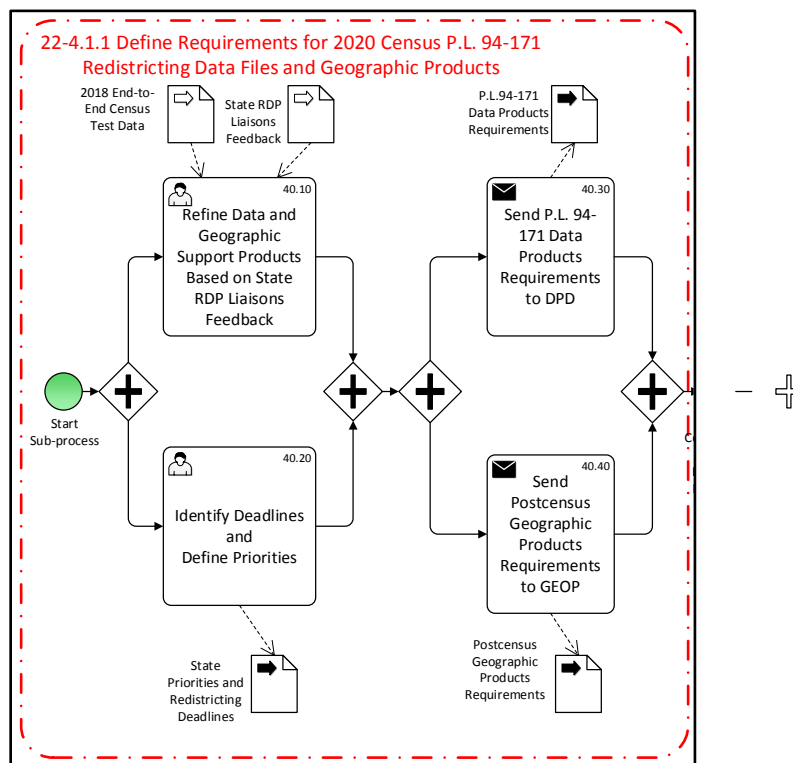
- Define Requirements for 2020 Census P.L. 94-171 Redistricting Data Files and Geographic Products [RDP 22-4.1.1].
- Deliver the 2020 Census P.L. 94-171 Redistricting Data Files and Geographic Products [RDP 22-4.1.2].

Figure 18 provides a detailed view of the constituent activities that make up the “Conduct Phase 3 – Deliver the 2020 Census P.L. 94-171 Redistricting Data Files and Postcensus Geographic Products” operational subactivity.



**Figure 18: Conduct Phase 3 – Deliver the 2020 Census P.L. 94-171 Redistricting Data Files and Postcensus Geographic Products**

### 3.4.1.1 Define Requirements for 2020 Census P.L. 94-171 Redistricting Data Files and Geographic Products [RDP 22-4.1.1]

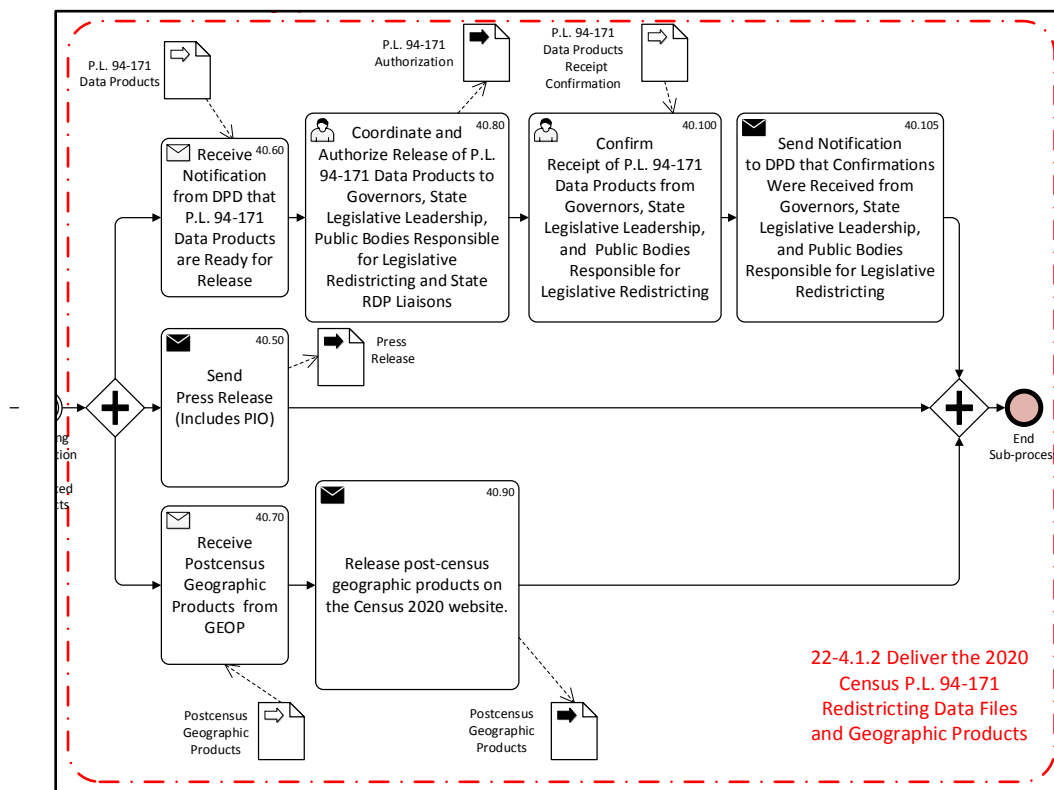


**Figure 19: Define Requirements for 2020 Census P.L. 94-171 Redistricting Data Files and Geographic Products**

The goal of Phase 3 is to deliver the redistricting data files, or P.L. 94-171 data and geographic support products, the states will need to conduct their postcensus redistricting. This work actually begins with the 2018 End-to-End Census Test. The Data Products and Dissemination operation (DPD) will create a prototype P.L. 94-171 data product, and the GEOP will create maps and shapefiles, using the data collected in the 2018 End-to-End Census Test and the geography associated with the test site. These prototype products will be provided to the state RDP liaison, who will provide feedback as to how the products, as formatted and disseminated, meet their needs. This feedback will help the CRVRDO refine and create 2020 Census data and geographic support product requirements that will be sent to DPD and GEOP respectively. The CRVRDO will also identify any particular state-imposed deadlines the states may have for completing their redistricting work. These state deadlines are another control for the RDP. Because the P.L. 94-171 data products are released to states on a flow basis, the Census Bureau tries to create and release products early in the flow for the states that have legislative requirements to complete their redistricting earlier. Those priorities will feed into the

requirements delivered to DPD and GEOP so they can plan the order in which they generate state products.

### 3.4.1.2 Deliver the 2020 Census P.L. 94-171 Redistricting Data Files and Geographic Products [RDP 22-4.1.2]



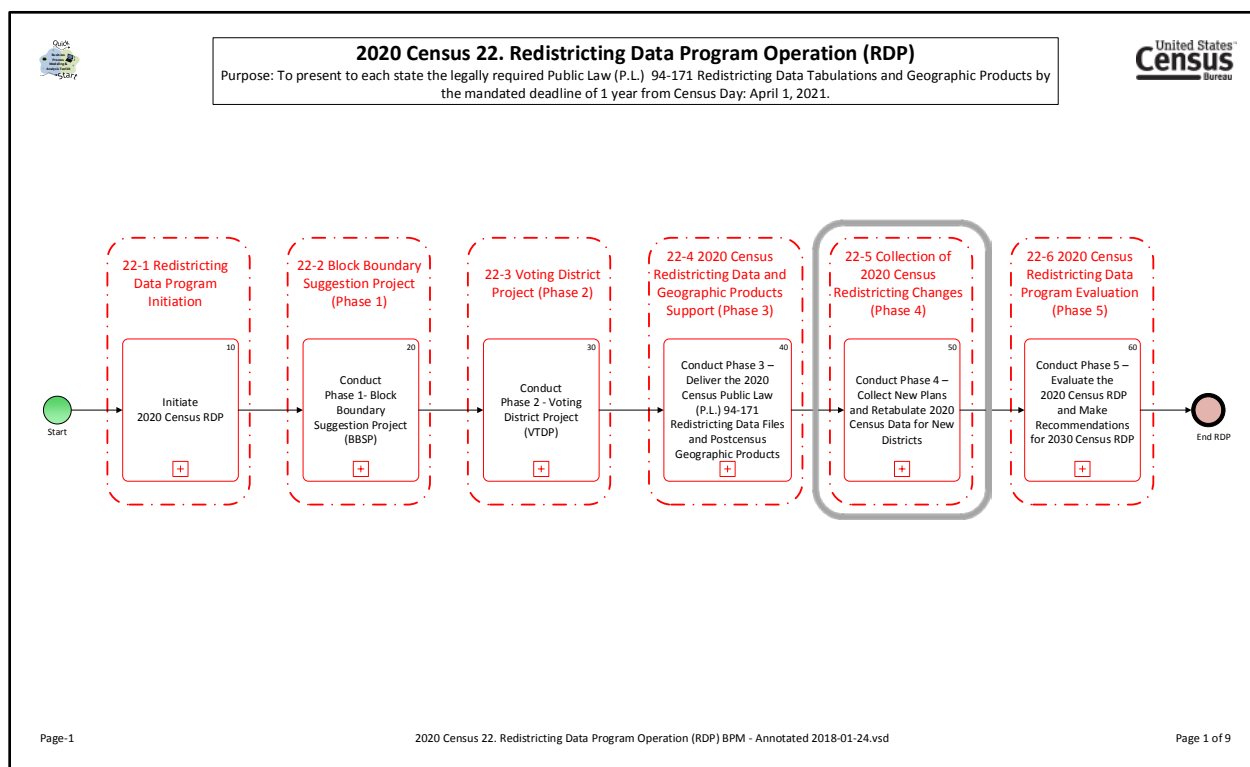
**Figure 20: Deliver the 2020 Census P.L. 94-171 Redistricting Data Files and Geographic Products**

After the GEOP and the DPD have received the data and geographic product requirements and generated the products, the RDP will receive notification from the DPD that the data products are ready to be released and receive the postcensus geographic products from the GEOP. P.L. 94-171 is a control that requires the data product to be delivered no later than one year from Census Day (April 1, 2021). The CRVRDO will coordinate and authorize the release of each state's data products to an embargoed environment on the Census Bureau's website, accessible to the respective governor, legislative leaders, members of public bodies responsible for legislative redistricting in that state, and the state RDP liaison. The CRVRDO will notify the state officials that should be included in an initial embargoed release of the products and provide them with

instructions for registering for the embargo. The CRVRDO will approve all state embargo registrants to receive the data. The CRVRDO will also receive the postcensus geographic products for each state from the GEOP on removable media and provide them to the governor, legislative leadership, members of public bodies responsible for legislative redistricting, and the state RDP liaison. The products will also be released on the Census Bureau's website. At the same time, the Census Bureau's PIO will prepare and release a press release announcing the products release. After the data products are released, the CRVRDO will confirm by telephone calls with governors, state legislative leadership, and members of public bodies responsible for legislative redistricting, that they have received the tabulation data products for their state. Once the CRVRDO has confirmed that at least one legislative member from each of the minority and majority parties has accessed the data, the CRVRDO will notify the DPD that confirmation was received, so the DPD can release the products to the media and the public.

### 3.5 Collection of 2020 Census Redistricting Changes (Phase 4) [RDP 22-5]

Figure 21 shows the BPM for the Collection of 2020 Census Redistricting Changes (Phase 4) [RDP 22-5] activity area (area within the gray rounded rectangle) and its constituent activities within the overall context of the RDP Operation.



**Figure 21: Collection of 2020 Census Redistricting Changes (Phase 4) [RDP 22-5] Constituent Activities**

The Collection of 2020 Census Redistricting Changes (Phase 4) activity area has only one operational subactivity as shown below:

- Collection of 2020 Census Redistricting Changes (Phase 4) [RDP 22-5].
  - Conduct Phase 4 – Collect New Plans and Retabulate 2020 Census Data for New Districts [RDP 22-5.1].

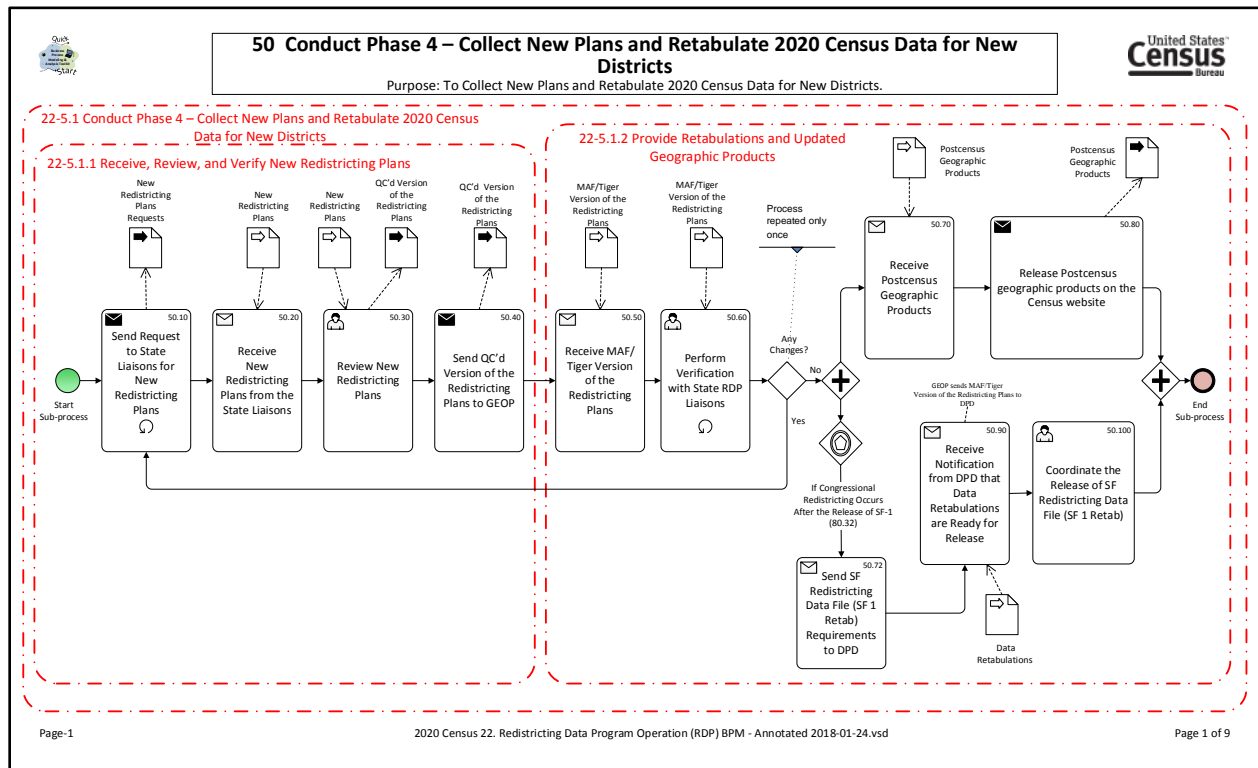
The subsequent section describes the Collection of 2020 Census Redistricting Changes (Phase 4) operational subactivity in detail.

### **3.5.1 Conduct Phase 4 – Collect New Plans and Retabulate 2020 Census Data for New Districts [RDP 22-5.1]**

The “Conduct Phase 4 – Collect New Plans and Retabulate 2020 Census Data for New Districts” operational subactivity is subdivided into the following constituent activities:

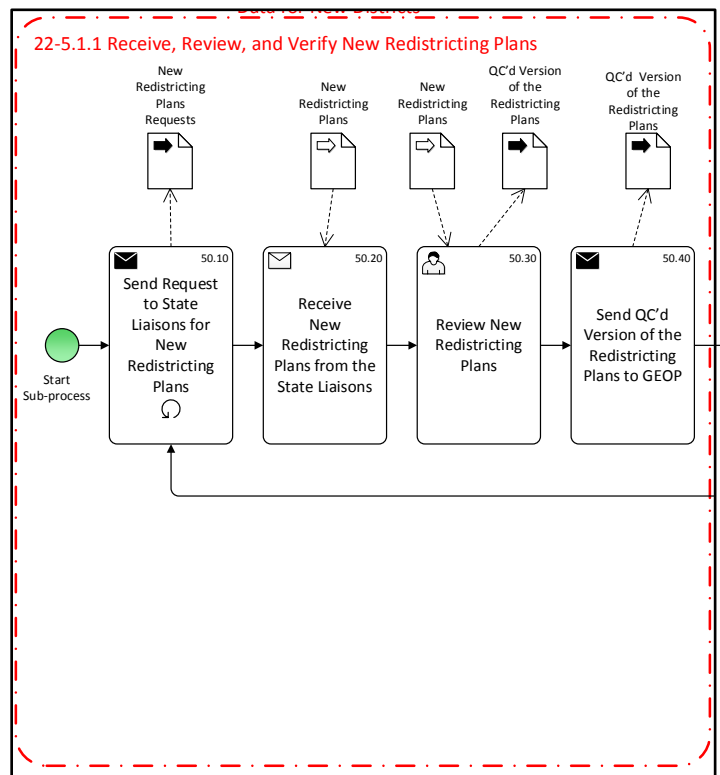
- Conduct Phase 4 – Collect New Plans and Retabulate 2020 Census Data for New Districts [RDP 22-5.1].
  - Receive, Review, and Verify New Redistricting Plans [RDP 22-5.1.1].
  - Provide Retabulations and Updated Geographic Products [RDP 22-5.1.2].

Figure 22 provides a detailed view of the constituent activities that make up the “Conduct Phase 4 – Collect New Plans and Retabulate 2020 Census Data for New Districts” operational subactivity.



**Figure 22: Conduct Phase 4 – Collect New Plans and Retabulate 2020 Census Data for New Districts**

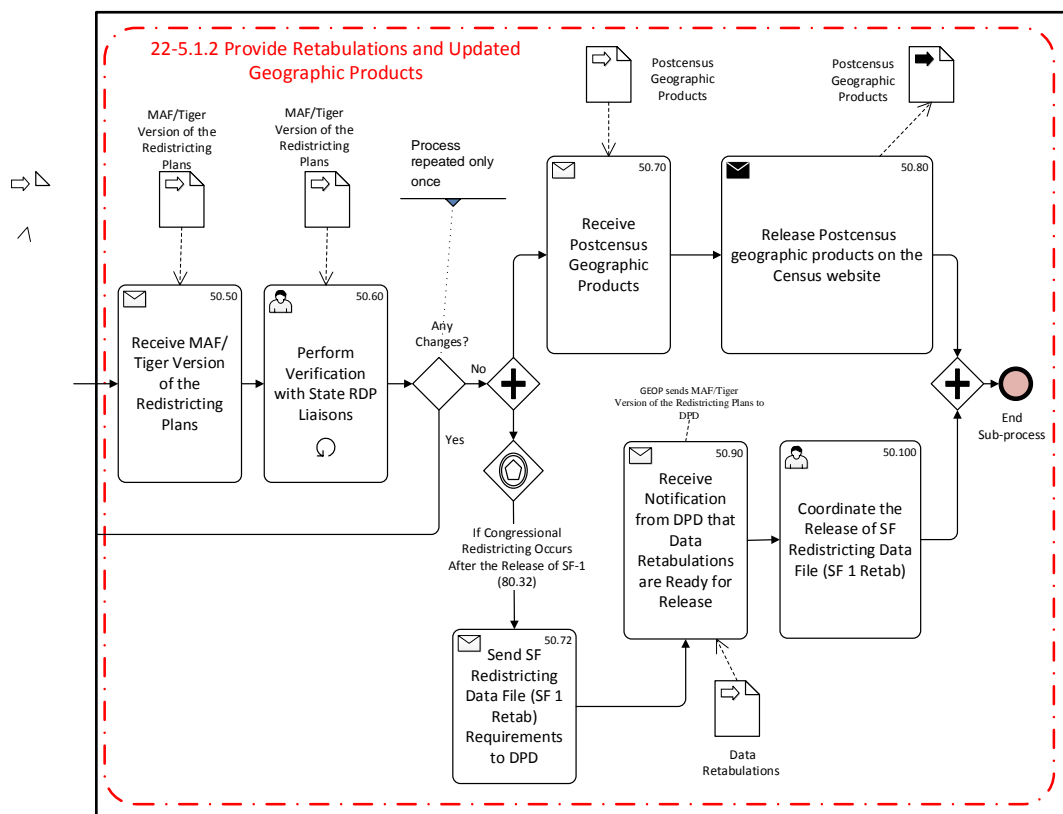
### 3.5.1.1 Receive, Review, and Verify New Redistricting Plans [RDP 22-5.1.1]



**Figure 23: Receive, Review, and Verify New Redistricting Plans [RDP 22-5.1.1]**

After the states receive the data and geographic support products from Phase 3, they can conduct their redistricting and redraw their CDs and SLDs based on the 2020 Census results. At that point, the CRVRDO will send a request to the state RDP liaisons requesting the state to submit their new CD and SLD plans to the Census Bureau. The states will provide the plans and the CRVRDO will receive them through Centurion, a secure file transfer mechanism. After reviewing and checking the plans for quality, the CRVRDO will send the new redistricting plans (CD and SLD update files) to GEOP for processing into the MAF/TIGER system.

### 3.5.1.2 Provide Retabulations and Updated Geographic Products [RDP 22-5.1.2]



**Figure 24: Provide Retabulations and Updated Geographic Products [RDP 22-5.1.2]**

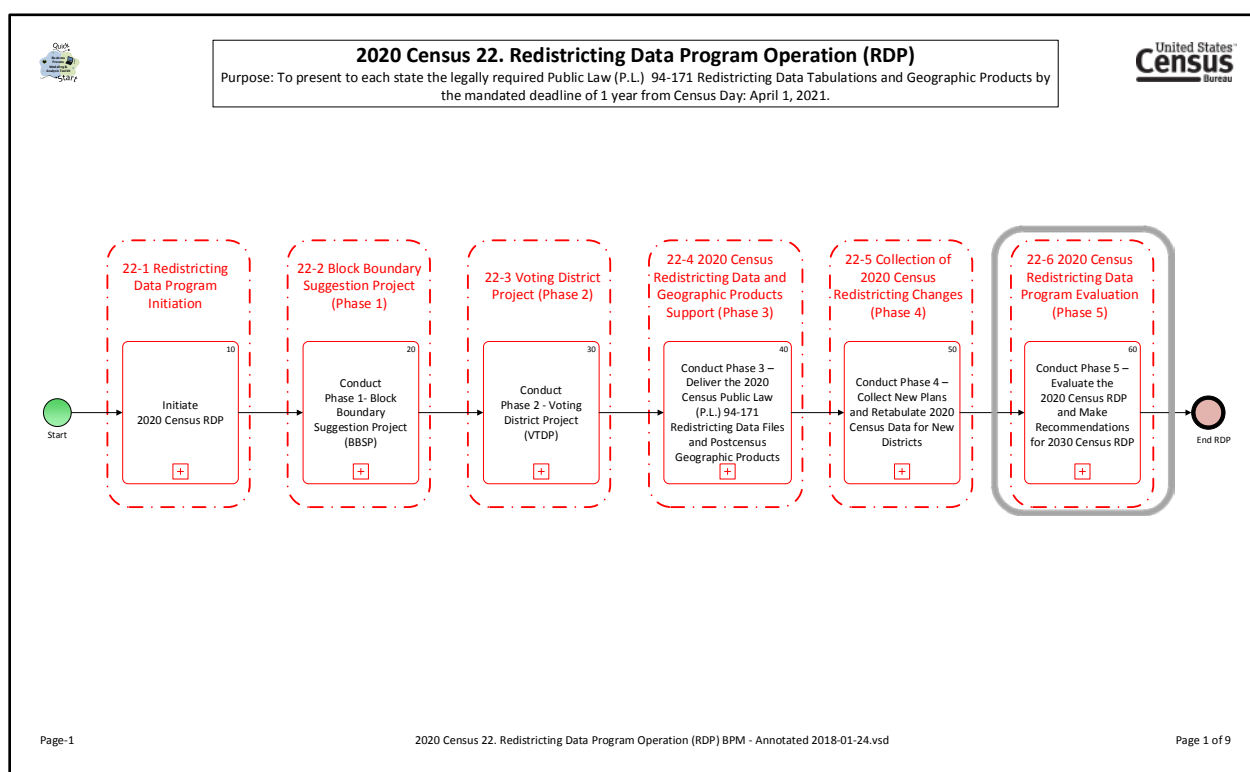
After the GEOP has processed the plans into the MAF/TIGER system, they will send a version of the plan created from the MAF/TIGER system back to the CRVRDO. The CRVRDO will send those plans back to the state RDP liaisons so the liaisons can verify that the new plans are correctly represented in the MAF/TIGER system.

If a state RDP liaison determines that the plans are not represented correctly, and he or she needs to submit changes back to the Census Bureau, the CRVRDO will ask the liaison to submit the plans again, and the process as described in Sections 3.5.1.1 and above in this section repeats. After the liaison resubmits their new plans or determines that the original plans the Census Bureau provided from the MAF/TIGER system do not need any changes, corrections, or updates, the GEOP will generate postcensus geographic support products on removable media that the RDP will receive and send to state legislative leaders, governors, state RDP liaisons, and members of the public bodies responsible for legislative redistricting. The products will also be posted to the Census Bureau's website. The DPD will generate SLD and CD 2020 Census data retabulations based on requirements provided by the RDP. The DPD will notify the RDP when

those products are ready to be released. These retabulations will reflect the geography of the new CD and SLD boundaries submitted in Phase 4. The CRVRDO then coordinates the release of the data.

### 3.6 2020 Census Redistricting Data Program Evaluation (Phase 5) [RDP 22-6]

Figure 25 shows the BPM for the 2020 Census Redistricting Data Program Evaluation (Phase 5) [RDP 22-6] activity area (area within the gray rounded rectangle) and its constituent activities within the overall context of the RDP Operation.



**Figure 25: 2020 Census Redistricting Data Program Evaluation (Phase 5) [RDP 22-6]  
Constituent Activities**

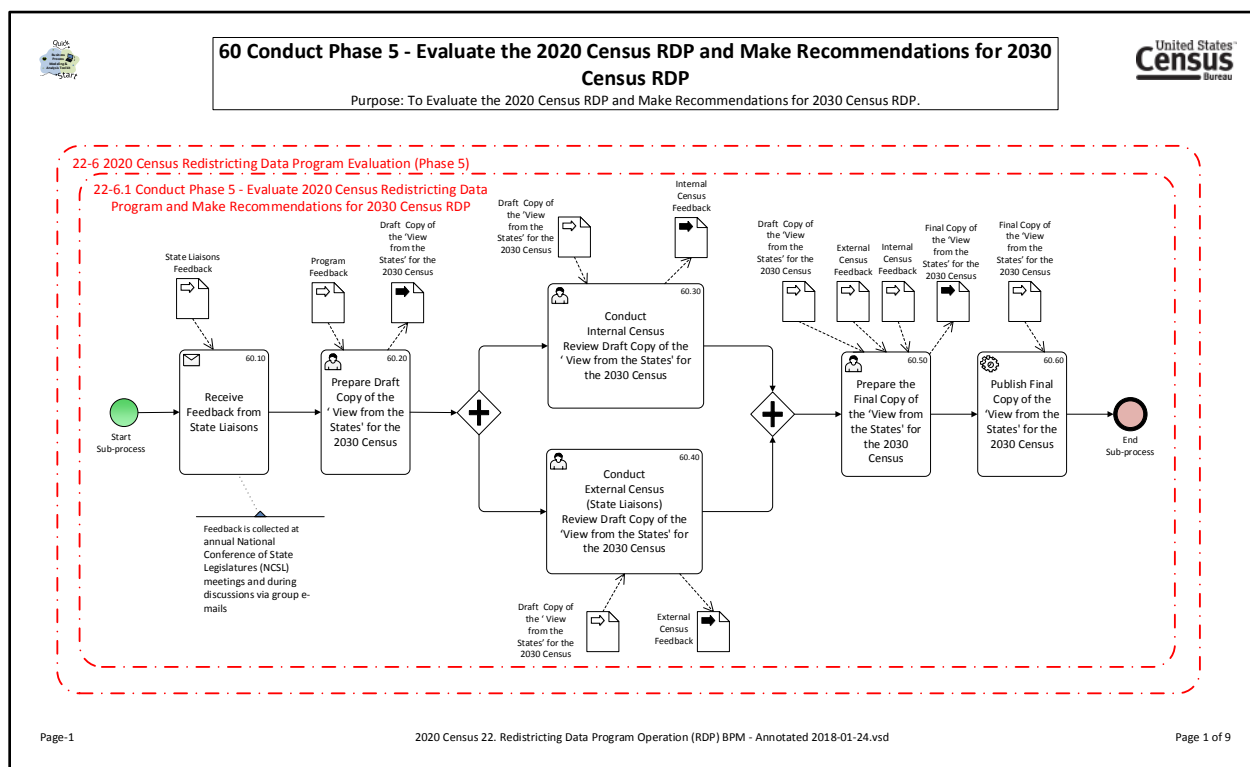
The 2020 Census Redistricting Data Program Evaluation (Phase 5) activity area has only one operational subactivity as shown below:

- 2020 Census Redistricting Data Program Evaluation (Phase 5) [RDP 22-6].
  - Conduct Phase 5 - Evaluate 2020 Census Redistricting Data Program and Make Recommendations for 2030 Census RDP [RDP 22-6.1].

The subsequent section describes the 2020 Census Redistricting Data Program Evaluation (Phase 5) operational subactivity in detail.

### 3.6.1 Conduct Phase 5 - Evaluate 2020 Census Redistricting Data Program and Make Recommendations for 2030 Census RDP [RDP 22-6.1]

Figure 26 provides a detailed view of the constituent activities that make up the “Conduct Phase 5 - Evaluate 2020 Census Redistricting Data Program and Make Recommendations for 2030 Census RDP” operational subactivity.



**Figure 26: Conduct Phase 5 - Evaluate 2020 Census Redistricting Data Program and Make Recommendations for 2030 Census Redistricting Data Program**

Phase 5 of the RDP is essentially an evaluation of the first four phases of the program. The CRVRDO solicits feedback from state liaisons by email and through conversations at conferences such as the National Conference of State Legislatures and other meetings. After receiving this feedback, the CRVRDO prepares a draft of the “View from the States: Designing P.L. 94-171 Redistricting Data for the Year 2030 Census,” a document that will describe the feedback from the 2020 RDP and how it can be used to inform the design of the 2030 RDP. When the draft is complete, it will be reviewed concurrently by internal Census Bureau

reviewers at the senior management level and by external reviewers, which are the state RDP liaisons. The CRVRDO will use the external and internal feedback to prepare the final copy of the document and publish it as a print product.

## 4. Cost Factors

Investment in RDP is projected to have minimal influence on the overall cost of the 2020 Census. While the Redistricting Data Program operation (RDP) is not a major cost driver for the 2020 Census, the following mechanisms from the IDEF0 Context Diagram represent the resources used to support this operation and comprise part of the 2020 Census cost elements:

### Staff

- HQ Staff
- Field Office Staff

### Sites

- HQ
- Field Offices
- State Training Sites

### Systems

- GUPS
- Centurion
- ArcGIS
- 2020 Census Website

### Other

- HQ and field office IT Infrastructure for conducting RDP operational work
- Census Network connectivity for data transmission between operational systems and operational sites

## 5. Measures of Success

For the 2020 Census operations, the corresponding Measures of Success will be documented in the operational assessment study plans and final reports. The operational assessment study plan documents the criteria that will be used to define successful completion of the operation. The operational assessment report will provide results on whether the criteria were met.

In general, operational assessments report on planned to actual variances in budget, schedules, and production and training workloads. The corresponding Measures of Success (as documented in the operational assessment study plan) include variances that exceed established thresholds. See *Content Guidelines for the 2020 Census Operational Assessments* for the potential scope of assessment.

Types of success measures include:

- **Process Measures** that indicate how well the process works, typically including measures related to completion dates, rates, and productivity rates.
- **Cost Measures** that drive the cost of the operation and comparisons of actual costs to planned budgets. Costs can include workload as well as different types of resource costs.
- **Measures of the Quality** of the results of the operation, typically including things such as rework rates, error rates, and coverage rates.

Additionally, the 2020 Redistricting Data Program operation (RDP) will publish *A View from the States* as part of Phase 5 of the RDP. *A View from the States* is an evaluation of the other phases of the program and includes feedback from the states. It also contains recommendations for the 2030 Census RDP.

## Appendix A – Acronyms and Terminology

Table 7 lists the acronyms and abbreviations used within this Detailed Operational Plan document.

Table 8 lists a Glossary of Terms used within this Detailed Operational Plan document.

Additional Decennial terminology can be found on the Census Bureau Intranet under the [TBD] portal.

**Table 7: Acronyms and Abbreviations List**

| Acronym | Meaning   |
|---------|---|
| ADC     | Address Canvassing operation                                    |
| ARC     | Archiving operation   |
| BAS     | Boundary and Annexation Survey                                  |
| BBSP    | Block Boundary Suggestion Project                               |
| BCU     | Basic Collection Unit   |
| CD      | Congressional District  |
| CQR     | Count Question Resolution operation                             |
| CRO     | Count Review operation  |
| CRVRDO  | Census Redistricting & Voting Rights Data Office                |
| CUF     | Census Unedited File  |
| DPD     | Data Products and Dissemination operation                       |
| ETL     | Enumeration at Transitory Locations operation                   |
| FACO    | Federally Affiliated Count Overseas operation                   |
| GEOP    | Geographic Programs operation                                   |
| GEOP/GD | Geographic Programs operation/Geographic Delineations component |

| <b>Acronym</b> | <b>Meaning</b>   |
|----------------|--|
| GEOP/GDP       | Geographic Programs operation/Geographic Data Processing component               |
| GIS            | Geographic Information System  |
| GQ             | Group Quarters operation   |
| GUPS           | Geographic Update Partnership Software   |
| HQ             | Headquarters   |
| IAC            | Island Areas Censuses operation  |
| IPC            | Integrated Partnership and Communications operation                              |
| LUCA           | Local Update of Census Addresses operation                                       |
| MAF/TIGER      | Master Address File/Topologically Integrated Geographic Encoding and Referencing |
| MDF            | Microdata Detail File  |
| NARA           | National Archives and Records Administration                                     |
| NRFU           | Nonresponse Followup operation   |
| P.L.           | Public Law   |
| PSAP           | Participant Statistical Area Program   |
| RDP            | Redistricting Data Program operation   |
| RPO            | Response Processing operation  |
| SDRP           | School District Review Program   |
| SLD            | State Legislative District   |
| SPC            | Security, Privacy and Confidentiality operation                                  |
| TEA            | Type of Enumeration Area   |
| UE             | Update Enumerate operation   |

| Acronym | Meaning                 |
|---------|-------------------------|
| UL      | Update Leave operation  |
| VTD     | Voting District         |
| VTDP    | Voting District Project |

**Table 8: Glossary of Terms**

| Term        | Meaning  |
|-------------|--|
| ArcGIS      | Desktop Geographic Information System Software |
| P.L. 94-171 | Public Law 94-171                              |

## Appendix B – References

Appendix B lists the documents or other resources used during the development of this Detailed Operational Plan document.

U.S. Census Bureau (2017), [“2020 Census Operational Plan,”](#) Version 3.0, October 27, 2017.

U.S. Census Bureau (2016), “Operational Assessment Content Guidelines for the 2018 End-to-End Census Test and the 2020 Census,” Draft, May 10, 2016.

U.S. Census Bureau (2014) [“Designing P.L. 94-171 Redistricting Data for the Year 2020 Census: The View from the States,”](#) December 2014.

## **Appendix C – Activity Tree for Redistricting Data Program Operation (RDP)**

This appendix presents the Activity Tree for the RDP Operation. An Activity Tree uses an outline structure to reflect the decomposition of the major operational activities in the operation. Each activity is numbered according to its position in the outline. For example, for the current operation numbered “22,” the first activity would be numbered 22-1. Subactivities under this activity would be numbered sequentially, starting again with the number one. For example, the first subactivity under the first activity would be numbered 22-1.1 the second subactivity as 22-1.2. The second activity would be numbered 22-2, and so on.

### **RDP Activity Tree:**

- 22-1 Redistricting Data Program Initiation
  - 22-1.1 Initiate 2020 Census Redistricting Data Program
- 22-2 Block Boundary Suggestion Project (Phase 1)
  - 22-2.1 Conduct Phase 1 – Block Boundary Suggestion Project (BBSP)
    - 22-2.1.1 Invite and Confirm Phase 1 Participants
    - 22-2.1.2 Provide Phase 1 Participant Package and Support
    - 22-2.1.3 Receive and Prepare Phase 1 Updates for GEOP
- 22-3 Voting District Project (Phase 2)
  - 22-3.1 Conduct Phase 2 – Voting District Project (VTDP)
    - 22-3.1.1 Invite and Confirm Phase 2 Participants
    - 22-3.1.2 Provide Phase 2 Participant Package and Support
    - 22-3.1.3 Receive and Prepare Phase 2 Updates for GEOP
- 22-4 2020 Census Redistricting Data and Geographic Products Support (Phase 3)
  - 22-4.1 Conduct Phase 3 – Deliver the 2020 Census P.L. 94-171 Redistricting Data Files and Postcensus Geographic Products
    - 22-4.1.1 Define Requirements for 2020 Census P.L. 94-171 Redistricting Data Files and Geographic Products
    - 22-4.1.2 Deliver the 2020 Census P.L. 94-171 Redistricting Data Files and Geographic Products
- 22-5 Collection of 2020 Census Redistricting Changes (Phase 4)
  - 22-5.1 Conduct Phase 4 – Collect New Plans and Retabulate 2020 Census Data for New Districts
    - 22-5.1.1 Receive, Review, and Verify New Redistricting Plans
    - 22-5.1.2 Provide Retabulations and Updated Geographic Products

- 22-6 2020 Census Redistricting Data Program Evaluation (Phase 5)
  - 22-6.1 Conduct Phase 5 - Evaluate 2020 Census Redistricting Data Program and Make Recommendations for 2030 Census RDP